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STRATEGIC DEFENCES AND CANADA: AMERICAN
HEGEMONIC DECLINE, UNCERTAIN WILL, AND UNCLEAR FUTURE

by

(C) Malcolm MacLeod Bernard, B.A.

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of
Master of Arts

Department of Political Science

Carleton University

Ottawa, Ontario

August 31, 1987

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HEGEMONIC DECLINE' UNCERTAIN 'WILL' AND
UNCLEAR FUTURE"

submitted by Malcolm Bernard, B.A.
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September 30, 1987

ABSTRACT

Both the Strategic Defence Initiative (SDI) begun by the United States in 1983, and the more recent Air Defence Initiative (ADI), will have near-term consequences for Canada primarily in the issue-areas of sovereignty and security. However, technological and political uncertainties plague the ballistic missile defence research program; both the SDI's future course and the contributions that strategic defences will require from Canada remain unclear. The standard form that the technologies under investigation will eventually take will be affected by America's debate of its appropriate national role in foreign policy and by the tensions between extant strategic doctrines. Until this technological standardization occurs, the strategic defences' long-term consequences cannot be predicted with precision.

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Introduction

Canada has always lived under the shield of a great protector--first France, then England and, more recently, the United States. From this secure position, Canada has had rarely to contemplate seriously the issues of peace and war, or even the consequences of actions between the great powers. Canadians usually joined war only when either they felt compelled by personal allegiance to do so, as in the Boer War, or when the choice was made for them by their protector state. This was true until the nuclear age, which stripped all nations of whatever insularity they had previously enjoyed. As with all other nations, Canada at last became exposed to the consequences of intense great-power conflict.

Through the nuclear era, Canada has not been able to escape these consequences. Escape was impossible, although our diplomats and academics gave it a fair attempt through the advocacy of conciliatory international institutions and régimes. As promising as these ventures may have seemed, they did not win the sustained support of the great powers,

who preferred to base their security upon means they themselves controlled and whose uses they believed they understood.

However, in the mid-1980s, the United States (and perhaps the Soviet Union) began contemplating a technological breakthrough that, if attained, could transcend the nuclear era. The Strategic Defence Initiative (SDI), in the popular imagination, promised an impenetrable shield against ballistic missiles; in conjunction with the Air Defence Initiative (ADI) and other American programs, it seemed to promise to restore that sense of insularity that nuclear weapons had negated. For both the United States and the allies it wished to shield in this way, the vision of strategic defences was alluring.

The broad vision of the SDI evoked a number of questions: Could technology save us from disaster? What could we expect from strategic defences? These were the questions driving an extended discussion of the Strategic Defence Initiative, but they have been framed too widely for our present purpose. Rather, this essay attempts to explore consequences of the SDI within the bilateral relationship between the United States and Canada--between great power and ally.

In general, three consequences could be advanced for any revisions in American defence policy. Canadian security, sovereignty, and economic conditions might each be affected. The changes could promise benefits or threaten

costs in each, or a combination, of these areas. The problem facing Canadian policy makers was the management of these consequences in a way consistent with their own objectives.

First, a revised American defence policy could affect Canadian security, understood as the protection from or exposure to danger, primarily by raising or reducing the probability of war with the Soviet Union. For geographical reasons, Canadian security remained inextricably intertwined with the stability of the superpowers' strategic nuclear relationship. Should this stability be seriously degraded, then the probability of a central nuclear war would increase. Canada would face a greater threat due to its physical presence between the superpowers and because of its alliance with the United States. In this context, any American policy changes that harmed the stability of the American-Soviet relationship must also harm Canadian security. Canada's appropriate response, then, would be to oppose those changes that were destabilizing and, conversely, to support those that are stabilizing.

Second, the changes could affect our sovereignty, or independence of action within our boundaries, principally by raising or reducing the prospects of an American military presence. Canadian territory had a certain strategic value that could rise or fall in response to changes in American defence strategy. Were this value to increase, then the

prospects were greater that the United States would want to exert strategic control of the territory. Canada, like any nation-state, would want to protect its sovereignty. However, a tradeoff could exist between sovereignty and security if changes that promoted one detracted from the other.

Third, changes in American defence policy could affect the Canadian economy. Greater or lesser military expenditure might be required, creating demand shifts for Canada's defence industry and possibly shifting the demand for Canadian technological expertise. The demand for Canadian technologists and arms production could rise, for example, in response to policy changes that promoted increased military expenditure. However, here too, tradeoffs could exist. Policy makers might have to face a choice between security and economic conditions. They would also confront a choice between economic conditions and sovereignty if the promotion of one detracted from the other.

As we shall see, there had been no shortage of claims that the Strategic Defence Initiative would affect Canada in each of these areas. Often, analysts seized upon impressions of future technologies, reified them into elaborate systems of anti-missile defences, declared them either workable or infeasible, and proclaimed consequences ranging from eternal peace to, as it were, peaceful eternality. However, this author contends that many such avowals have been

premature, given the tremendous technical and political uncertainties that still surrounded the SDI in 1987.

Certainly there would be consequences of some kind; this seemed a claim upon which most analysts could agree, and not least because of its vagueness and generality. But how could one move toward statements of greater precision, particularly in the face of the very great technical and political uncertainties that surrounded the American research and development program? How could the claim of consequences be refined, reducing speculation in favour of more credible analysis?

This essay argues that the SDI and its consequences may be better understood if the research program is situated within a particular context--more specifically, by describing the political environment from which President Reagan's strategic defence vision arose. Although the research itself has been technical, its mandate was a political act. Until March, 1983, the problem of anti-missile defences had been assigned a fairly low priority within America's research agenda. But with the president offering the field a new legitimacy, through the vehicle of a televised speech, the problem was propelled to the front of the queue. Thenceforth, the future course of the program became responsive to political direction. This was due, in part, to the significant volume of resources committed to the program,

and also to the cognitions upon which policy makers and analysts framed requirements for weaponry in general.

The SDI was born into an environment of doctrinal fragmentation. In general, American foreign policy in the 1980s lacked direction and overall coherence. The perception had set in that the United States was a "hegemon," or leader, in decline, and that it was less able than it had previously been to control the course of world affairs. By this time, the United States was internally engaged in debate concerning its appropriate role abroad, and both the purposes of foreign policy and its instruments of execution were being repeatedly questioned. As such an instrument, the SDI came to be swept up in the broader debate, even before it could produce new techniques to assuage the fears that accompanied the sense of hegemonic decline.

The grand debate on national role had begun about two decades earlier. In this, the Vietnam War was a seminal event. The United States began to realize that its ability to project influence was subject to limits, and many came to question the orthodox conception of America's national role. This conception was the "containment" doctrine that had guided foreign policy formulation since the beginning of the Cold War.

In general, doctrine is a cognitive device for ordering perceptual reality. For its adherents, it explains the occurrence of events and sets up expectations for the future

unfolding of reality; these can serve as the basis for acquiring and mobilizing resources. Within the state, doctrine communicates and legitimizes the need for these capabilities; among the state's allies, it performs a similar function through shaping their understanding of the international environment and through providing for them a justification to respond to the demands that this environment seemingly makes of them.

For Americans, and their allies, the doctrine of containment had long been a unifying force. It labelled communism as the principal threat to their shared values of liberal democracy and economics, and prescribed roles for the United States and its allies. As the largest power in the "free world," the United States would police the international system and pay most of the cost; the allies would contribute as they could to a network of alliances flung around the Soviet Union. Within America, which is given over to this form of mass belief, containment acquired consensual support and was virtually unquestioned by the foreign policy making élite. Armed with the "bomb," and enjoying nuclear superiority over the Soviet Union, America once believed itself omnipotent and almost invulnerable.

However, the consensual foundation cracked, and containment became less tenable for many. The doctrine had set up expectations of a stable international environment in which the Soviet Union would be held at bay and in which the

states of the "free world" could get on with their own development through following the American political and economic models. These expectations diverged from the path along which reality unfolded: having also acquired the "bomb," the Russians became militarily an even greater threat than before; yet they also sought détente and "peaceful coexistence," an opening for which containment had no satisfactory explanation. Closer to home, America's allies began pursuing their own agendas which often differed from American expectations. And, coupled with these surprises, Vietnam signalled to many that the United States could not count with assurance upon enforcing its will in all the ways that it had earlier intended.

U.S. foreign policy began adjusting to the changing environment through the 1970s and into the 1980s, but the formulation of effective policies was hampered by the absence of an overall reality-adaptive framework. The élite consensus having cracked, foreign policy making slid into a milieu of acrimony, bewilderment, estrangement, and general immobilism. Not only were the goals of policy open to challenge, but so were the existing and proposed means of their implementation. Not even a research program such as the SDI could escape this atmosphere.

Thus two themes emerged to dominate deliberations of American purpose and power. The first of these was the sense that the world had changed in the two previous decades

and that external events tended less and less to occur in the way that Americans believed they should. Unlike the era following World War II, which the United States remembered nostalgically as a period of unquestioned American leadership, the international environment by the mid-1980s was perceived to have increasingly evolved in ways that were inimicable to American interests and perhaps beyond control by America's capabilities. The second theme in this broader debate concerned America's will to lead. International leadership rested not only upon national capabilities but also on a conviction that these should be used to influence external events. That America should exert direction appeared in retrospect to have been virtually unquestioned within the United States and abroad in the decade or so following World War II. However, the confidence with which America accepted that role had eroded over time.

Both themes were reflected in the dimension of strategic nuclear policy, itself a source of controversy. Post-war America had understood the "bomb" to guarantee its invulnerability for as long as it retained a monopoly. But the proliferation of the weapons, particularly the arsenal acquired by the Soviet Union, had since then given the "bomb" new meanings. The nuclear weapon, instead of assuring invulnerability, now presented the United States with profound vulnerability. Since arriving in this condition, America had never felt comfortable. Although it was

willing, for a time, to accept mutual vulnerability as the best of a bad lot of choices, the logic of the relation proved untenable to some, and the strategic debate returned to the issue of how best to ensure security, and whether the future products of the SDI could play a useful role. Two tensions were central: first between a strategic doctrine emphasizing finite or minimum deterrence, in conjunction with arms control and reduction, versus a war-fighting posture intended either to awe the Russians into not attacking or to limit the damage that they might cause; and second, between the concept of minimum deterrence versus the embryonic doctrine of "defence dominance." This is where the SDI was becoming a critical issue: would deployments of strategic defences promote or reduce arms races and the probability of war?

The play between political belief and technology was of manifest importance in this regard. In the history of technological development, the interaction has always been reciprocal, in that technological developments have political uses and political requirements create uses for new technological development. In the case of the SDI, such reciprocity was evident: even as the new technologies offered contributions that could promote a more substantial war-fighting doctrine, with the distant promise of a later doctrinal shift to defence-dominance, the tensions between the strategic doctrines exerted stress upon the SDI and its tech-

nologies. The potential impact upon the course of technological development was very great, and the result quite uncertain. This was so because the SDI in 1987 had not developed to the point that its technologies had achieved their standardized forms, a phase of development in which applications are drawn from a base of common understanding of the technologies' potential.

Such standardization of ideas and applications would eventually occur, and would presumably be subsumed by a doctrine legitimizing the acquisition of the capabilities and the demands to be made upon allied states to permit the effective operation of strategic defensive systems--or, perhaps, legitimizing a decision to forego this acquisition, as happened with the previous U.S. effort in this area in the late 1960s and early 1970s.

Until this standardization came about, permitting the SDI to take a more certain course, it was premature to speak with assurance about the SDI's consequences for Canada, other than to sketch a rough outline of the types of issues that seemed likely to emerge. As indicated above, these revolved around considerations of security and sovereignty, with economic considerations possibly forming a third category.

This, then, is the general line of argument taken in this essay. The first two chapters discuss Americans' belief that they were losing both their ability and their will

to exert international leadership. Chapter One situates the United States in the world by examining the emergent theories of hegemonic decline and succession, and finds that these could be used by policy makers and analysts to support divergent self-images. Gathered under the rubric of régime theorists are those who held that declining relative power would not imperil the United States as long as the international environment that it had shaped could be perpetuated through the co-operation of other states. Positioned beneath the banner of hegemonic succession are those who held that the relative decay of power boded ill for the United States and who argued that, unless capabilities could be amassed that could either check or reverse the entropic nature of relative power, America would eventually become a power no more significant than the others. Chapter Two focuses on the cognitive environment in which policy makers and analysts function, and finds that the legacy of a fractured élite still prevented the effective, long-term pursuit of either of the grand frameworks. Foreign policy could only be implemented with the political support of shifting pluralities, and thus the goals and means of military policy fluctuated in response to the formation and re-formation of unstable coalitions. The implication for the SDI was that the program's managers operated under conditions in which they could not be sure of their ultimate purpose or even that their innovations could usefully be applied.

From there, Chapter Three reviews the dimension of strategic nuclear policy in order to comprehend more directly the interaction of politics and technology. It addresses the erosion of America's post-war nuclear superiority, and the sets of grouped beliefs from within which policy makers and analysts prescribed remedies and from within which they responded to President Reagan's vision of strategic defenses. The research program is portrayed as an innovative effort that was pulled in contradictory ways by these strategic doctrines. Moreover, it is seen as one that, if successful, could first reinforce the trend toward some more-substantial war-fighting approach to nuclear deterrence and second, as one that could eventually offer the means to transcend nuclear dissuasion as an instrument of policy.

Chapter Four reviews the defensive weapons systems that the SDI had investigated in the four years following the president's call for research. The chapter illustrates the political pressures that have been placed upon the program, showing that the SDI's initial mandate had come to be substantially re-written in its early years. It describes the administration's bid to propel the program toward early deployments and the obstacles faced by these efforts. Also, the recently introduced Air Defence Initiative is presented, providing the reader with a rough outline of the package of strategic defence proposals that could be pursued within the next few years. This skeleton architecture forms the basis

of a discussion in Chapter Five of the requirements that might be transmitted to the Canadian government, and of the security and sovereignty problems that would result.

Chapter 1

Responses to Declining Hegemony

American university teachers gradually came to profess--and their students to repeat--that the country was becoming, or had become, a "hegemon" in decline. Ideas have consequences, and this general effort to situate America in the world over time would undoubtedly have consequences for how the Strategic Defence Initiative came to be developed and, indirectly, for the impacts such development would have on Canada. The image that the Americans held of themselves would have a bearing on the missions they set for any military system, on the tasks they intended it to accomplish, and on the resources that they committed to it. With a very large system such as the SDI, there could well be a reciprocal impact upon the national self-image, such as occurred following the U.S. development of the atomic bomb.

Moreover, the degree of national consensus could be affected, with a successful deployment being a strongly positive factor for national morale. This, in turn, could have an impact upon the debates concerning America's role in the

world, and could lessen the acrimoniousness with which such debate had been conducted of late. As we shall see, a successful deployment hinged upon some technological imponderables, and upon a potentially changing definition of what "successful" was intended to mean. Before addressing such matters, though, we begin this analysis by situating America within the world, from within the American perspective, by examining the contemporary American mood as it was reflected in the literature on the U.S. role in world affairs.

By 1987, America was haunted by the belief that it was losing its dominance of international events. It sensed that important changes were occurring beyond its borders, and that these were less amenable to its management than before. Policy-makers and analysts noted a widening divergence of interests between the United States and countries that had begun to establish and pursue their own agendas. Increasingly, unpredictability characterized the course of external events; the United States government found itself surprised more often by international outcomes. The trend became evident with the U.S. retreat from Vietnam, a sequence of happenings that the Americans had never thought possible when they entered the Indochina conflict. It continued with other crises along the American periphery: Angola's fall to Soviet- and Cuban-backed forces, and the loss of Iran to Islamic fundamentalism. The protracted diplomatic hostage-taking drama in the latter country emerged

as a symbol of "America's bewilderment and incapacitation."¹ Even in areas closer to America, events unfolded in unexpected ways. Europe successfully withstood American pressure to reject a pipeline extending from Soviet natural gas fields. In Central America and the Caribbean, Nicaragua and El Salvador presented challenges that America hesitated to accept; even when hesitation resolved itself in favour of action, as in Grenada, America found disturbing the lack of allied applause.

Retrospective policy analyses described the 1970s as an era in which the United States began to recognize its limits. Kenneth Oye characterized the approaches of the Nixon, Ford, and Carter administrations as attempts to adjust to the new-found realities: they all narrowed the definition of American interests in the periphery; they attempted to shift security responsibilities onto allies, notably Europe and China; they sought accommodation with the Russians through détente and arms control; and they relied increasingly on multilateral management of the international economy. The Reagan administration attempted at first to reverse these trends, notably through building up military and economic power, but soon it too found itself pursuing an un-

¹ Sanford J. Ungar, "The Roots of Estrangement," in Estrangement: America and the World, ed. Ungar (New York: Oxford University Press, 1985), p. 6.

acknowledged policy of adjustment.² A mood of pessimism had taken hold, evident in Simon Serfaty's comparison of the Reagan era with that of Eisenhower: "The 1950s had been characterized by an American military and economic superiority that no single administration could regain, regardless of policy or intention."³

Within academic circles, new "theory" had begun to emerge to describe and explain the evolving international conditions, and the lessening of America's leadership. These constructs were intriguing not only for the propositions they advanced, but also for the reasons of their creation. The generation of new "theory" reflected the priority that American contributors placed upon policy relevance. This aspect of theory construction can be a leading concern of scholars within any nation. However, Steve Smith argues that it is a dominant force in American theoretical development, more so than in other nations, due chiefly to the high degree of movement between the academic and policy-making communities and also to the American pattern of research

² Kenneth A. Oye, "Constrained Confidence and the Evolution of Reagan Foreign Policy," in Eagle Resurgent? The Reagan Era in American Foreign Policy, ed. Oye, Robert J. Lieber, and Donald Rothchild (Toronto: Little, Brown, 1987), pp. 3-39.

³ Simon Serfaty, "Lost Illusions," Foreign Policy 66 (Spring 1987), p. 7. Emphasis added.

financing.⁴ This means the emergence of the new theories speaks especially well in the United States to the milieu within which they are produced.

As Jürgen Habermas shows, knowledge is sociologically contextual. It is sought for "interpretations that make possible the orientations of action within common traditions" and for "information that expands . . . powers of technical control" over social realities.⁵ Accordingly, Americans had busily erected intellectual frameworks that attempted to describe and to explain the ascendancy, maturation and decline of dominant states within the international system.

The central theme of the emerging theories was that the presence of a world power produces a certain degree of order in the international system--order that is initially structured to the benefit of the dominant state. However, power fluctuates over time and the power concentration that underpinned the international order tends to dilute, or diffuse. As a consequence of the process of power diffusion, international discord should increase. Non-hegemonic states,

⁴ Steve Smith, "The Location of International Relations as a Social Science," Paper presented at the Conference on Paradigm Hegemony and International Relations in Canada, Carleton University, Ottawa, October 9-11, 1986.

⁵ Jürgen Habermas, Knowledge and Human Interests (London, Heinemann, 1971), p. 314; cited in Richard K. Ashley, "Political Realism and Human Interests," International Studies Quarterly 25:2 (June 1981), p. 208.

increasingly able to pursue their own goals, find their interests diverging from those of both the weakening hegemon and the other non-dominant states. Such theory warns that this process of diffusing power and diverging interests, if carried far enough and if not reversed by the hegemon, might well eventually plunge the system into a far-reaching war, one which could dethrone the reigning state and whose aftermath would then establish a successor. The theorists considered these dynamics to be basic elements for understanding the rise and fall of dominant political units, perhaps as far back as the Imperial systems of ancient Greece and Rome, and more certainly within the modern, "Westphalian" international system.

Paradigmatic Considerations

The basic premise underpinning the discourse on theory under consideration is that a relationship exists between a state's ability to lead or to manage the international system, and the concentration of "power" within the system. This is analogous to Western theories of international economic dominance, developed in part by Charles Kindleberger and François Perroux. Kindleberger asserts that orderly relations within the international market are contingent upon the presence of a single stabilizing actor. Similarly,

Perroux contends that a dominant economy is able to order the terms of international trade largely because of its size and greater bargaining power.⁶ Extending these ideas into the international political system, Robert Gilpin finds international stability to result from the economic and military strength of preponderant states: "The Pax Britannica and Pax Americana, like the Pax Romana, ensured an international system of relative peace and security."⁷

Approaches such as these constituted a manifestation of realist revivification, inasmuch as they relied heavily on the assumptions of the realist paradigm. States were still the primary actors, pursuing their interests, and relying on power relationships in an environment of potential anarchy. They were still held to act rationally in that they compare costs and benefits in deciding their courses of action, although departures from rationality always remain possible. This is implicit in Gilpin's depiction of the state's interests as determined by its leaders through bargaining within a political élite and within society.⁸ Through this conceptualization of the state as a coalition of coalitions, an

⁶ Cited by George Modelski, "Long Cycles, Kondratieffs, and Alternating Innovations: Implications for U.S. Foreign Policy," in The Political Economy of Foreign Policy Behaviour, ed. Charles W. Kegley, Jr., and Patrick McGowan (Beverly Hills, Calif.: Sage Publications, 1981), p. 67.

⁷ Robert W. Gilpin, War and Change in World Politics (New York: Cambridge University Press, 1981), p. 145.

⁸ Gilpin, War and Change, p. 19.

allowance was made for alternatives to rational decision making, of which bureaucratic politics was a relevant example.

How the international system was conceptualized in this discourse may be seen in Waltz's treatise on theory construction.⁹ Although he reaches different conclusions from the more "barefoot" theorists who introduced unit-level processes, he characterizes the system as a set of conditions that operate primarily on the level of the state, constraining the behaviour of states to produce a narrow range of outcomes. Three structural elements, he says, comprise the system: its organizing principle; its units, considered in terms of their functional differentiation; and their juxtaposition. Because states have not transcended the problem of guaranteeing their survival without recourse to the use of force, the system's organizing principle is closer to anarchy than to hierarchy. Since states seek most essentially to ensure their own survival they are functionally undifferentiated even if they possess differing capabilities for the performance of this task. Of these three structural elements, the first two are unchanging: their identification as constants allow the third element--the distribution of capabilities--to be treated as a systemic variable. Thus, in systemic terms, it is the spatial location of resources

⁹ Kenneth N. Waltz, Theory of International Politics (New York: Random House, 1979), pp. 79-101.

and capabilities--specifically the degree of their concentration within political units--that constrains states and produces a consistently narrow range of outcomes.

Although the revival of realism was an important feature of the new reality-adaptive frameworks, these frameworks were also significant departures in that they offered a challenge to theories of the balance of power, the main product of traditional realism. The predictions of hegemonic theories were entirely contrary to the earlier expectations of realism. For instance, the balance-of-power literature contends that it is the parity of relative power that produces peace, and that large imbalances in relative power should produce war. Hegemonic-succession theories, however, ascribe peace to large power imbalances, and major war to the drift toward power parity. Moreover, the balance-of-power framework advised statesmen to take an "internationalist" stance, to seek alliances in order to increase and actualize their potential power. In contrast, the hegemonic-succession approach advised them to take an "isolationist" stance, to focus to a far greater extent on their own technological and socioeconomic development.¹⁰

¹⁰ A. F. K. Organski and Jacek Kugler, The War Ledger (Chicago: University of Chicago Press, 1980), pp. 14-28.

Order, War, and Hegemonic Succession

In the simplest form of the hegemonic-succession theory, power becomes concentrated within one state, typically as a consequence of war, through a highly structured and stratified, hierarchical systemic order. However, almost immediately, entropy begins to set in, power gradually diffuses, order tends to decay, and eventually war(s) of hegemonic succession should become more probable. Such a war would conclude with a new distribution of capabilities within the system; the state with the highest concentration of capabilities would emerge as the new hegemon. In this approach, some such structured outcome of war and succession was held to be highly likely to recur over time; in some versions the sequence was seen as forming a regular periodic cycle whose outcomes were all but certain except for the identification of future winners and losers.

These wars, dubbed "hegemonic," were only a subset of the phenomena our typologists had collectively classified as "war." That is, the event to be explained was not war in general, but general war. This was distinguished from other interstate conflict primarily by the consequences that such war portends for the system.¹¹ As Gilpin told us, hegemonic

¹¹ As such, these were held to be distinct from the more frequent phenomena of "major war." See Jack Levy, "Theories of General War," World Politics 37:3 (April 1985), pp. 344-74.

war drastically re-orders the basis of international relations, re-establishing the system in accordance with the new distribution of power:

Victory and defeat reestablish an unambiguous hierarchy of prestige congruent with the new distribution of power in the system. The war determines who will govern the international system and whose interests will be primarily served by the new international order.¹²

Such wars occur rarely, the theorists agreed. Modelski offered a short list: the Italian Wars (1494-1517); the French Wars (1688-1713); the French Revolutionary Wars (1792-1815); and the German Wars (1914-1918, and 1939-1945).¹³ Each of these established a new period of hegemony, respectively under Portugal, the Netherlands, Great Britain, and the United States.

The concept of hegemony varied across the theorists. Modelski defines it as a position of "world leadership": one state, possessing a preponderance of the major forms of

¹² Gilpin, War and Change, p. 198.

¹³ Modelski, "The Long Cycle of Global Politics and the Nation-State," Comparative Studies in Society and History 20 (April 1978), p. 225. Modelski's list may be compared with more inclusive compilations by consulting Levy, pp. 357-71. The discrepancies among authors' data sets were blamed by Levy on different operational definitions of "hegemonic war" that were often neither explicit nor rigorous. Levy also detected possible tautologies in definitions of such wars that included terms drawn from their consequences. To avoid this, Levy suggested a re-definition based on the number of participating great powers and on the intensity and severity of the war.

power relative to other states, takes the lead in providing and maintaining order, "filling essential needs for innovation, security, and trade," thus providing the system's members with what amounts to a code of behaviour as well as a stable environment within which to behave.¹⁴ Gilpin's hegemony occurs when "a single powerful state controls or dominates the lesser states in the system."¹⁵

In both conceptualizations, hegemony was a concentration of capabilities, from which influence and leadership were derived. The leadership would be facilitated by the initial absence of a serious rival, a condition most likely to occur following a war of succession. The war having sorted out the states according to their capabilities, the system would seek order. That the leadership would be forthcoming was assured, for the dominant state would seek to reap the benefits of its status. In Gilpin's formulation, hegemony can involve the coercion of lesser states; this aspect was thus more reminiscent of the earlier, more classical theories of imperialism. Modelski, although not excluding coercion as an instrument of leadership, allows more

¹⁴ Modelski (note 13), p. 218. See also Modelski, "Long Cycles and the Strategy of U.S. International Economic Policy," in America in a Changing World Political Economy, ed. William P. Avery and David D. Rapkin (New York: Longman, 1982), p. 98; and Modelski and Patrick Morgan, "Understanding Global War," Journal of Conflict Resolution 29:3 (September 1985), p. 400.

¹⁵ Gilpin, War and Change, p. 29.

explicitly for a benevolent relationship between leader and follower. Lesser states can be expected to co-operate with the leader as they too profit within a stable (as opposed to a disorderly) international system.¹⁶ In various ways, they may even help to evoke the hegemon.

The link between hegemony and systemic order is seen to be effected through three factors: the distribution of power among states; the accompanying hierarchy of prestige; and the set of rights and rules (either implicitly or explicitly defined) under which interstate relations such as trade, diplomacy, wars, and so on, are largely conducted.¹⁷ As with Modelski, Gilpin ascribes the motive behind the provision of this control, domination, or international order to the hegemon's expectation of benefits.

Having assumed its position of world leadership, the preponderant state should enjoy both prosperity and longevity. Occasional disturbances might arise, including wars, but none should be as cataclysmic as a war of succession. This is so precisely because of the hegemon's preponderance. Having established itself atop the hierarchy of prestige, the hegemon enjoys largely deferential behaviour from the

¹⁶ Modelski shared an affinity with much of the contemporary theorizing on "régimes" as a basis for interstate co-operation. This aspect of the theoretical genre is treated below.

¹⁷ Gilpin, War and Change, pp. 28-35.

lesser states. Having acquired a reputation as a world power, the hegemon is for a time virtually untouchable.

These theorists contend that the hegemonic system tends over time strongly toward entropy, leading the major nation-state players toward discord and descent into war(s) of succession. Seemingly beyond the hegemon's control, entropic processes occur that erode the relative power differential upon which hegemony must rest. Again, among the theorists, there was no consensus on the reasons for this; no factor was identified as a single most important entropic cause of eroding power. It seemed, however, that some combination of internal and external developments comes into play, reducing the hegemon's advantage, elevating the power of potential challengers, and drawing the system closer to another war of succession.

Externally, two phenomena were held to contribute to the erosion of hegemonic power, principally through raising the costs of continued dominance.¹⁸ The first of these was familiar to development theorists: national economies grow over time, albeit at different rates. To the extent that resource acquisition, along with the growth of population and productivity, contribute to the power of non-hegemons, the gap between these and the foremost state should narrow. Of course, this is possible only if the power of potential

¹⁸ See Gilpin, War and Change, pp. 168-85.

contenders increases at a greater rate than that of the hegemon, a condition especially expected to occur early after the succession war(s), when defeated states rebuild, and again later during hegemonic maturity.

The second phenomenon was not entirely distinct from the first: technology tends to diffuse throughout the international system. If non-hegemons are able and willing to learn, they can emulate the most advanced economic, technological, and organizational features of the dominant state; they could even possibly improve upon the measures by which the hegemon had acquired its advantage. Should a hegemon be sufficiently wedded to them, the techniques that elevated a world leader to its position would thus also be a source of its later descendance, once its imperial techniques have come to be understood, employed and surpassed by its competitors.

The process of uneven development and the process of technological diffusion both eventually present the hegemon with often steeply rising costs for the maintenance of system dominance. In Gilpin's terms: "Increases in the numbers and strengths of rival challenging powers force the dominant state to expend more resources to maintain its superior military or political position."¹⁹ If the hegemon can neither gain further technological advantage nor

¹⁹ Gilpin, War and Change, p. 169.

mobilize further resources, then gradually its position of dominance will come to be reduced. Some consideration will therefore have to be given to addressing the problem of the state's innovative and resource-mobilizing capacities.

Although the systemic factor--the degree of capability concentration--is seen as being directly related to the degree of systemic stability, the theorists also assert the relevance of phenomena internal to the state. Through these latter processes--unit-level features--capabilities are amassed (or placed under strain), and so through these internal processes hegemony may be largely attained or allowed to deteriorate.

For example, Charles Doran and Wes Parsons argue that the relative power of any state may be understood in terms of its economic and political development.²⁰ Limits to the growth of power (expressed by them as a possession rather than the relational aspect stressed throughout this paper) may be expected to develop as structural rigidities and overcentralization came to dominate the internal economic and political processes.

In Modelski's later work, he attempts to link the rise and fall of hegemonic power to the long-term economic cycles proposed by Nikolai Kondratieff. This work does not,

²⁰ Charles Doran and Wes Parsons, "War and the Cycle of Relative Power," American Political Science Review 74:4 (December 1980), p. 949.

however, identify causal factors beyond the "declining innovativeness and energy of the world power," particularly with regard to its stagnating lead industries.²¹

Gilpin explores the internal processes in greater depth, relying heavily on economic theories to identify a mutually interacting set of causal forces.²² The growth of a major economy is ultimately limited by its supply of resources; once congestion occurs on these, the rate of economic growth dwindles. Additionally, the maturation of an economy is accompanied by a tendency for the rate of public and private consumption to exceed the rate of economic growth, thus constraining investment and sapping productivity. Productivity comes to be further weakened as the economic structure evolves through agrarian and industrial stages toward dominance by service sectors. Moreover, defence expenditures tend to climb steeply as security comes to depend on technological innovations. Finally, as economic growth slackens, social conflict tends to emerge; growth policies, initially consensual, then yield to a politics of distribution and redistribution, with its attendant atmosphere of heightened discord.

Each of these internal forces interacts to erode the economic surplus of the preponderant state, chipping away at

²¹ Modelski and Morgan, p. 401.

²² Gilpin, War and Change, pp. 156-68.

the basis of its dominance of the other members of the international system. Also, the dominated states' capabilities increase over time; and as they emulate, they may improve upon the hegemon's military and productive techniques. Both product and process innovations gradually diffuse from the mature power to other states. Sooner or later one (or some) of them comes to be sufficiently far advanced along the growth cycle to present a challenge--economic, then political, and still later perhaps military--to the declining world power.²³ To the extent that the interests of the rising state(s) diverge from those of the hegemon, war becomes both more possible and more probable; if there emerges a war of succession, the international system will be either recreated or re-ordered; in the latter case the system then begins its next cycle, evolving through a new era of hegemonic consolidation, maturation, and decline.

Reversal of Decline

Although both the internal and external factors propel the hegemon along a path of decline, the continuity of the process is not at all assured. It remains possible that the hegemon, in its descendant phase, could somehow attenuate,

²³ Modelski and Morgan, p. 401.

if not completely reverse, the process of relative power dilution. If decline is thought of as a condition of costs rising against near-stagnant resource growth, in effect producing a sort of fiscal crisis, then a hegemon might be able to preserve or regain its advantage in relative power by generating effective new strategies of resource expansion, cost reduction, or both.

Gilpin suggests that several such strategies may be available to the leading power.²⁴ It could, for example, seek efficiency gains from the resources it had previously committed to the attainment or maintenance of its position. These might be achieved through technological or organizational innovations--better weapons and techniques, more-efficient political structures, and so on. Additionally, the costs of dominance might be reduced through a variety of means. Military perimeters could be re-established around more-secure and less-expensive positions. War could be initiated against a challenging state (or states) in the expectation that victory would permit large reductions in military expenditures. The changing power distribution could be met by shifting some costs onto allied states, or even by unilaterally curtailing external commitments. The success of any of these, or some combination, could offer a respite

²⁴ Gilpin, War and Change, pp. 188-94.

from the decline in relative power, and might even offer the possibility of a hegemonic restoration.

Thus, while a fiscal crisis might occur, the theorists assert that its consequences need not be certain. The general tendency toward a relative power decline of hegemons is generally accepted in this literature, but it also holds out the possibility that the decline might be checked, that the hegemon might enter a phase of renewing or rejuvenating its capabilities.

The precedents for this development were few, the theorists conceded. Indeed, according to Modelski, imperial Britain represents the only such example in the modern era. He portrays the French Revolution and the Napoleonic Empire as a major challenge marking the end of the first period of British hegemony. A second era became possible as Britain produced both economic and ideological innovations. Free trade and industrialization endowed Britain with power enough first to lead the Concert of Europe against Napoleon and then to define the nature of international order for most of the ensuing century.²⁵ On the other hand, Gilpin presents these developments as features of Britain's overall ascendancy and not as part of its rejuvenation. That is, by 1987 the notion of British decline in the 18th century was not present in Gilpin's analysis. Rather, the above

²⁵ Modelski and Morgan, p. 397; Modelski (note 13), p. 223.

features were presented as part of a continuing process that elevated Britain as the successor to pre-modern agrarian and mercantilist empires.²⁶ Generally, then, contention remains as to whether Britain qualifies as having, through its industrial revolution, brought about a successful reversal of the process of hegemonic decline.

Evaluation of the Genre

The hegemonic succession theorists faced problems beyond determining whether the British case was a valid example of hegemonic rejuvenation. In particular, three points were raised by an analysis of the central theme of the theory. Was a hegemonic concentration of capabilities a necessary condition for the emergence of regularized co-operative behaviour in international relations? Moreover, was it a sufficient condition? More importantly for the uses to which the theory could be put, was the relationship between declining hegemony and deteriorating international order as firm as the theorists suggested? And, moving beyond these considerations of the emergence and retreat of co-operative processes, how did the theory fare in empirical application?

²⁶ Gilpin, War and Change, p. 124, pp. 134-37.

The study of co-operative international behaviour was a wide field in itself, embodying a plurality of approaches: studies of integration, co-ordination, harmonization, transnationalism and others were indicative of the variety.²⁷ Contemporary theoretical and empirical material on international régimes offered insights as well, and some of it is introduced here. Robert Keohane defines régimes as "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given arena of international relations."²⁸ Their value lies in reducing the uncertainties and risks associated with transnational relations, thus facilitating negotiations and enhancing international co-operation.²⁹ Their continued existence can be considered manifest evidence of a relatively

²⁷ See A. J. R. Groom and Alexis Heraclides, "Integration and Disintegration," in International Relations: A Handbook of Current Theory, ed. Margot Light and A. J. R. Groom (Boulder, Colo.: Lynne Rienner, 1985), pp. 174-93.

²⁸ "Principles are beliefs of fact, causation and rectitude. Norms are standards of behavior defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice." Robert Keohane, After Hegemony: Cooperation and Discord in the World Political System (Princeton, N.J.: Princeton University Press, 1984), p. 57. See Oran Young, "International Regimes: Problems of Concept Formation," World Politics 32:3 (April, 1980), pp. 331-56.

²⁹ Keohane, After Hegemony, pp. 137-138. Co-operation is said to take place "when the policies actually followed by one government are regarded by its partners as facilitating realization of their own objectives, as the result of a process of policy coordination." pp. 51-52.

high degree of international order. This régime approach holds a paradigmatic similarity to hegemonic-succession theory. As with such theories, régime analysis was largely state-centric: the actors that establish these regularized co-operative processes are typically states, and régime participants--if not always states--typically further interests quite coincident with those of states.

Was a hegemonic distribution of power necessary to régime creation? Stephen Krasner uses the example of an open trading structure to explore the results of varying concentrations of potential economic power (understood as relative size and level of economic development).³⁰ States seek economic growth, social stability, political power and higher aggregate national income. Krasner affirms that an open international trading structure was more likely to arise during the presence of hegemonic power than during its absence. His argument resembles that of the succession theorists, in that hegemony allowed the manipulation of the choices available to the smaller states through incentives, both positive and negative. Smaller states would find that following the hegemon furthered their own goals more than would policies of non-co-operation. Yet hegemony need not be the only course leading to this outcome. Krasner argues that an open

³⁰ Stephen D. Krasner, "State Power and the Structure of International Trade," World Politics 28:3 (April 1976), pp. 321-24.

structure could result from a system of many small states enjoying similar levels of development--indeed, that this should actually come about (assuming the validity of neo-classical trade theory) as states come to recognize the contribution that such a system promises towards fulfilling their goals. Theoretically, then, hegemony may not be a necessary condition to international co-operation in trade; neither may it be in the other issue-areas not covered by Krasner's analysis.

Should hegemony not be an absolute prerequisite to régime formation, is it a sufficient condition? Empirical observations provided a response more unequivocal than those available from theoretical material: the United States certainly had had the capability to exercise economic hegemony in the period between the World Wars, yet historians portray the era as ~~one~~ in which régimes were collapsing. Trade arrangements grew more restrictive with the rise of tariffs and became nearly impossible with the breakdown of the international monetary system in the 1930s.³¹ Hegemony did not assure co-operation in this instance; as Krasner noted, "the United States led the way to closure."³² Thus hegemony could not be described as a sufficient condition for the

³¹ William P. Keylor, Twentieth-Century World: An International History (New York: Oxford University Press, 1984), pp. 133-43.

³² Krasner, p. 339.

emergence of regularized co-operative behaviour. Other conditions would have to be met--such as a political will to exert leadership.

Whether international co-operation via régimes could be perpetuated during or after the demise of preponderant power remained an open question. It certainly appeared possible in the world of abstract, "what-if" theorizing. Duncan Snidal suggests as much in an analysis based on Thomas Schelling's n-person binary-choice model of co-operation. Even after the relative power of a hegemon had decayed beyond the point above which it would have maintained order, co-operation might still be possible provided that secondary powers (perhaps the middle powers of conventional realist parlance) were willing to perpetuate the rules of the game; such provision could be expected if these states considered the existing régimes as contributing to their own interest. Indeed, suggests Snidal, "not only might cooperation persist after the decline of the hegemonic power, [but] the degree of cooperation might well increase."³³ The conditions for perpetuated or increased co-operation could be expected to vary from one issue-area to another, depending perhaps on the self-advantage that a state perceived within a particular régime. In a study of the supportership of varying international economic structures, for instance, David Lake

³³ Duncan Snidal, "Limits of Hegemonic Stability Theory," International Organization 39:4 (Autumn, 1985), p. 602.

argues that secondary-power receptiveness to free (or open) trade depends on both the state's relative economic size and productivity.³⁴ The more productive it is, and the greater its relative size, the more it should support an open structure. Thus the possibility exists for multilateral support-ership to sustain a régime beyond the weakening of hegemony.

Empirical evidence had begun to accumulate as this was written. The thrust of the early research can be captured through Keohane's treatment of the subject. Reasoning that American hegemonic decline should be reflected in the health of American-centred régimes, Keohane examined three economic issue-areas from post-war through to the late 1970s. Despite the decline of American economic power relative to that of other régime supporters, Keohane finds that co-operation persisted in trade, with tariff reductions furthering the openness of the international goods market; co-operation endured as well in the international monetary system, through which trade and payments are facilitated. However, in the oil régime that was designed to provide American allies with a subsidized factor of production, bifurcation occurred: producers grouped themselves as the Organization of Petroleum Exporting Countries while consuming nations coalesced under the International Energy Agency.

³⁴ David A. Lake, "Beneath the Commerce of Nations: A Theory of International Economic Structures," International Studies Quarterly 28:2 (June 1984), p. 150.

Thus, according to Keohane, in one issue-area the relation between declining hegemonic power and régime stability appeared quite strong; yet in two others the régimes persisted (albeit with minor modifications). Keohane's work raises the possibility, then, that the early diffusion of capabilities might not necessarily (or at least quickly) yield growing discord in interstate relations. Co-operation could persist if the régime had become well-defined and institutionalized to some degree. Accordingly, modern states might be able, at least for a time, to stave off the discord that was earlier associated with hegemonic decline. As Keohane put it:

We seem now to be in a period of potential transition between the hegemonic cooperation of the two decades after World War II and a new state of affairs, either one of prevailing discord or of post-hegemonic cooperation. Whether discord or cooperation prevails will depend in considerable measure on how well governments take advantage of established international regimes to make new agreements and to ensure compliance with the old ones.³⁵

Keohane thus presents the possibility of a transition of international systems, from one based on traditional conceptions of power to one based on the mutuality of interests among states and the rule of rules (as distinct from laws).

Keohane's work did not render the hegemonic succession approach invalid, however. Both his empirical research and

³⁵ Keohane, After Hegemony, p. 246.

the theoretical critiques addressed above were directed against an overly parsimonious description of dominant-power leadership and decline--parsimonious in that the focus was too fixed on the purely systemic relation between capabilities and co-operation and did not encompass the broader processes involving the unit-level phenomena that Modelski and Gilpin had described. These processes did not appear to be amenable to testing as this was written; certainly further scholarly attention seemed warranted. The historical evidence the theorists have offered thus far should be regarded as inconclusive--if only because their frameworks could only be post-dictive in such a use. For the theories to gain convincing external validity, their derived hypotheses would have to be tested against the contemporary and future social realities.

Swift results could not be expected, however, because hegemonic decline was apparently a slow process. Modelski's formulation, for instance, postulates a "cycle" of hegemonic ascendance, maturation, and decline lasting an average of 107 years within the modern international system.³⁶ Were this true of American hegemony, assumed to have risen in the early- to middle-20th century, a complete test of the theory would require waiting for the period 2014-2045. Considerable patience and longevity would be required, the latter not

³⁶ Modelski and Morgan, p. 401.

likely to be sufficient among the theory's main proponents and their critics. Nor could the agencies that control research funding be expected to support a research program of such long duration. Thus the odds against anyone's effectively planning a fairly rigorous on-going test of theoretical predictions were formidable. And yet if the world should turn much as the bulk of current theory implied, we could expect future scholars, as it were, to recycle this corpus.

Another focus of interest, related to the issue of theory testing, was the actual extent of American decline in objective terms. There are two points to be made here, both relating to the concept of power that underlies the theorizing under consideration here.

First, the measurement of power remained a problem for which neither the realist tradition nor the social sciences in general had found a satisfactory solution. As a possession of capabilities and resources, power might to some extent be measurable; but power as a social relation, which was the concept the theorists used, is decidedly more difficult to incorporate within empirical work.

Second, the conceptualizations of power differed among the theorists and the critics. Gilpin and Modelski use concepts that encompass the total capabilities and resources available to the dominant state in all areas of hegemony. Discussions such as Keohane's rely on more restrictive

characterizations of power, with hegemony being defined in mostly economic terms. Although Keohane concedes that other power aspects are relevant, such as military power, he largely suppressed discussion of their potential value in tracing hegemonic decline in the economic dimension (and then in only three issue-areas).³⁷ Economic power was undeniably a component of overall state power; its importance was beyond question. But military power must have had some salience as well, particularly in the protection of régime participants. And, to the extent that the participants were taking a "free ride" in security matters (that is, enjoying the benefits of protection without paying its approximate costs), economic-based estimates of their power to act independently were likely to be inflated; the consequences were obvious for the calculation of relative power and the assertion that hegemony had waned.³⁸

Perhaps, then, it was premature in the 1980s to dismiss the influence of American leadership. Keohane tended to do this, though; note his comment that "one of the most important features of American hegemony was its brevity."³⁹ Intuitively, however, it seemed unlikely that hegemonic decline

³⁷ Keohane, After Hegemony, pp. 39 et passim.

³⁸ I thus share to some extent the views of Bruce Russett in "The Mysterious Case of Vanishing Hegemony; or, Is Mark Twain Really Dead?" International Organization 39:2 (Spring 1985), p. 215.

³⁹ Keohane, After Hegemony, p. 139.

had progressed quite to Keohane's "period of potential transition," given that American support in situations of multilateral bargaining was still regarded by other states as highly desirable if not as a prerequisite. Moreover, American military protection still seemed a principal component of the order that lay under the co-operative processes in the other international dimensions. If these intuitions be valid, then one could not accurately describe the hegemon as having utterly passed from the stage. Rather, it would remain for some time an important power militarily, politically, and economically. Even if some of its capabilities had declined relative to those of the other states, it would still be a guarantor of order. But, as noted, these arguments had to remain mere intuitions in the absence of reliable indicators of national power. Lacking such measurements, theories of hegemonic stability and succession were not amenable to rigorous empirical testing.

Perhaps this round of theorizing itself constituted a political act through which the hegemon would find means to effect a restoration. Ideas do have consequences. One of these was the legitimization that this theorizing afforded within the United States to the formulation of these strategies and the investigation of capability requirements. It performed a similar function abroad. We have seen that the intellectual frameworks offered some guidance to the non-hegemons. In régime analysis, the approach used by Keohane,

these states are instructed to assume that preserving the co-operative processes will be beneficial not only to their particular interests but also to their collective desire for a stable environment. The broader approach of Gilpin and Modelski, although centred on the opportunities and constraints facing the preponderant power, implicitly guides the smaller states to see that stability is largely synonymous with hegemony and thus to accept, if not support, the ageing central power in its quest for rejuvenation. For those in foreign academic communities who could be swayed by American realism and its prescriptions, these normative undertones could play an important part in channelling, and restricting, the investigation of alternatives.

Taken as a whole, the literature constituted an effort to come to grips with the passing of the post-war era of unquestioned American dominance. It also reflected a collective scholarly meditation on the immobilism of American government, its seeming incapacity to play any vigorous and positive role in world affairs, and its internal divisiveness that paradoxically was overcome only in a widely shared sense of estrangement from the outside world, and in a broadly sensed alienation from the tremendous power capability America still unquestionably had.

The long period of absent consensus on national purpose provided the scholar with the necessary psychological distance from the state to view it in a highly reified way.

The viewing itself may have been in large part a rationalization of the democratic immobilism the American political system imposes upon itself in the absence of societal and élite consensus. The old sense of everything being possible was gone, and with it the political will to act. This period may also have been required as part of the cathartic process through which ageing hegemons gain a more mature view of their own capabilities.

In this condition, while scholars contemplated the condition of post-war America, many Americans hoped a revolution in the laboratory could provide the hegemonic where-withall to begin a new departure in pursuit of the American dream. As we shall see, America's "research machine" had begun to reward these hopes for innovations that could sustain autonomous action abroad. Yet the exuberance arising from these prospective technological solutions was hindered by the dissipation of political will, a phenomenon that obstructed the implementation of strategies intended to sustain, if not increase, hegemonic virility.

Chapter 2

Finding the Will to Lead

It would be difficult to overstate the importance of the perceptions we have just been reviewing for the conduct of U.S. foreign and military policy. They reflected the dissolution of consensus at the same time that they posed arguments for those holding them concerning how the presumed condition of American decline should be rectified--indeed concerning whether it was possible for America to recoup all or part of its former position. This debate, Canadians watched with some concern. We had complained in the post-war era, when the United States had a unified conception of the world (the "free world") that Americans did not consider sufficiently the opinions of allies, that they acted precipitously in committing us to whatever purposes and actions they saw fit from within their narrow consensus. Once this consensus had broken down, we then came to complain that the United States did not act predictably, was inconsistent, and was alienated from the multilateral forums in which we preferred to do international business. Perhaps the best we

can do is to look as objectively as possible at the contemporary state of American internal disaccord, to see if it might contain some clues as to its "structure" and as to how, given this structure, it might eventually be overcome.

As the United States confronted the growing belief that its dominance of international politics was waning, it was contemplating its future course of action. This included an examination of strategies to check the perceived process of declining hegemony. These could attempt to stabilize America's descent from the pinnacle of global power, or to reverse it. Yet the formulation of these responses was taking place within a domestic debate concerning America's proper place in the world. The course of this debate affected how America would define the purposes of its external actions and the value it would place upon exerting international leadership. This broader debate was one of overall national role. It was a struggle to inform the policy-makers' broad definitions of the types of decisions, commitments, rules and actions that suited their state, and of the functions that their state should perform in various geographic and issue settings.¹ Roles offer policy-makers and analysts a guide to problem-solving that, although incomplete, brings a degree of predictability to international action.

¹ K. J. Holsti, International Politics: A Framework for Analysis, 4th ed. (Toronto: Prentice-Hall, 1983), p. 116.

In the United States, these role conceptions have often been codified as doctrine--a formal statement of international orientation that gathers related beliefs and thoughts into a group, which then can be taught and learned. The assimilation of these ideas by opinion leaders and policy makers--present and future--facilitates the political communication that is a necessary formative element of policy; doctrine helps to foster the development of political support for a policy and its instruments of execution. By thus ordering perceptual reality for these men and women, and by identifying (if not often establishing) the problems that are to be remedied by these resources and capabilities, doctrine aids the state's acquisition and exercise of resources and capabilities. Doctrine has these uses in any state's foreign policy but, as Cecil Crabb contends, the political relevance of doctrine is greater in the United States than in most other societies. Crabb ascribes this to the American belief in eternal principles; similarly, George Kennan notes his countrymen's "persistent urge to seek universal formulae or doctrines in which to clothe and justify particular actions."²

² Cecil V. Crabb, Jr., "Major Doctrines of American Foreign Policy,"; and George F. Kennan, Memoirs (Boston: Little, Brown, 1967). Both cited in Charles W. Kegley, Jr., and Eugene K. Wittkopf, American Foreign Policy: Pattern and Process, 2nd ed. (New York: St. Martin's, 1982), pp. 75-76.

The Prior Consensus

Discussions of America's international role were not a novel feature of foreign-policy analysis in the late-1980s. The debate had opened about two decades earlier, coinciding with the erosion of the consensual base upon which traditional policy analysis had rested. That the debate persisted was significant, however, for its endurance spoke to the depth of the divisions within both the policy-attentive elite and the mass public.

The prior elite consensus, established between America's entry into World War II and the close of the Korean War, affirmed and legitimized an American role conception of global leadership. This leadership was to be effected in two ways. By its actions both at home and abroad, the United States would serve as an example for other nations to emulate: the ideals embodied in the constitution's "more perfect union" would be assimilated by other states. And by promoting a policy of "containment," the United States would prevent the spread of communism, whose tenets fundamentally challenged American political and economic philosophy, not to mention its economic interests.

The belief that the United States represented an exceptionally good example for the rest of the world to follow has been a deep-rooted feature of the American psyche. It had endured since the country's birth, when the Founding

Fathers saw themselves creating a nation unlike any other. In public myth, the United States had always been unique, on a higher moral plane than all other states, not least because of its foundation on a philosophy that transcended the principles and practices of relations between the Old World states. Tami Davis and Sean Lynn-Jones describe this faith in exceptional virtues as a pervasive feature of American diplomatic history, one that compelled an abstinence from European adventures until World War II.³

Even as the war ended, many Americans believed that their country's new international responsibility would be short-lived, that the United States could soon transmit its virtues through international institutions such as the United Nations, and that the rest of the world's acceptance of the American dream would permit the United States to retreat to its former, more-sheltered way of life. However, the course of external events in the mid-1940s, in Greece, Turkey, Iran, and other states, dispelled Washington's hesitations about Moscow's intentions. Idealist prescriptions of international law and organizations appeared untenable and America, turning to realism à la Morgenthau, began mobilizing resources and capabilities for an internationalist crusade.

³ Tami R. Davis, and Sean M. Lynn-Jones, "'Citty Upon a Hill'," Foreign Policy 66 (Spring 1987), pp. 20-38.

Hence the Truman Doctrine, with its promise to lead the world and to aid any state threatened by communism, and with its three-pillared policy of containment: the United States had a definite role on the international stage as the state responsible for managing the international system; communism comprised the principal threat to the system and its members; and the Soviet Union, as the "world headquarters" of communism, was to be encircled by a network of American-led alliances. The doctrine seemed entirely adequate at the time. Its appeal within the United States was sufficiently powerful to draw not only mass support but the endorsement of virtually all the foreign policy elite. For the latter group, "a commitment to the assertion of American global power was the badge of membership."⁴ Thus American hegemony and "containment" acquired a consensual base; the doctrine had a legitimacy that put it almost beyond question.

Consensus Undermined: Whither America Abroad?

The consensual base of foreign policy survived until sometime in the 1960s. It still existed in 1961, when the ringing phrases of the Kennedy Inaugural speech could still

⁴ Godfrey Hodgson, "Disorder Within, Disorder Without," in Estrangement: America and the World, ed. Sanford J. Ungar (New York: Oxford University Press, 1985), p. 140.

evoke a national thrill.⁵ But before the end of the decade, the consensus had clearly begun to break. The causes of its fragmentation were not entirely clear. In some analyses, the Vietnam War played a major role; America's eroding position and her subsequent retreat called into question the purpose and the legitimacy of military adventuresomeness.⁶ Alternatively, the foreign policy disaccord was a spill-over of the domestic tensions provoked in part by civil-rights issues, Lyndon Johnson's "Great Society" programs, and by a rising distrust of government institutions at both the élite and mass levels.⁷ Yet again, the breakdown of consensus might be viewed as indicative of periodic alternations in the national mood, here expressing a reversion toward American isolationism following a time of internationalism.⁸

However approached, it seemed reasonably clear that the war in Southeast Asia served as a prime catalyst for the élite's factionalization, which led in turn to the

⁵ "Let every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and success of liberty. Thus much we pledge--and more." Quoted in Kegley, p. 44.

⁶ For example, see David Fromkin and James Chace, "What Are the Lessons of Vietnam?," Foreign Affairs 63:4 (Spring 1985), pp. 722-46.

⁷ Hodgson, p. 133.

⁸ Frank L. Klingberg, Cyclical Trends in American Foreign Policy Moods: The Unfolding of America's World Role (Lanham, Md.: University Press of America, 1983), pp. 15-20.

articulation of competing visions of America's appropriate role abroad and of the capabilities that it would require.

Several attempts were underway in the mid-1980s to explore these belief systems and their consequences for policy-making. Ole Holsti and James Rosenau constructed a typology, based on two wide-ranging surveys of American opinion leaders that they conducted in 1976 and 1980. They found that three roughly defined foreign-policy belief systems had emerged within the élite, and that friction characterized the encounters between these collective mind-sets on questions of the international system's structure, the role and intent of the Soviet Union, and the orientation of American security policy.⁹ Similarly, William Schneider's analysis, based on a different data set, confirmed the persistence of élite divisions into 1982.¹⁰

The survey work highlighted the traditional tensions between isolationism and internationalism, and also found a

⁹ Ole R. Holsti and James N. Rosenau, American Leadership in World Affairs: Vietnam and the Breakdown of Consensus (Winchester, Mass.: Allen and Unwin, 1984). See also Holsti and Rosenau, "Consensus Lost. Consensus Regained?: Foreign Policy Beliefs of American Leaders, 1976-1980," International Studies Quarterly 30:4 (December 1986); for an effort to test propositions initially formulated in the 1970s against a 1980 data set.

¹⁰ William Schneider, "'Rambo' and Reality: Having It Both Ways," in Eagle Resurgent? The Reagan Era in American Foreign Policy, ed. Kenneth A. Oye, Robert J. Lieber, and Donald Rothchild (Toronto: Little, Brown, 1987), pp. 41-72. Schneider used quadrennial surveys of élite and mass opinion conducted since 1974 by the Chicago Council on Foreign Relations.

polarity within the latter. Among internationalists, tensions existed between the attitudes of "Cold War Internationalism" (Holsti-Rosenau), or "conservative internationalism" (Schneider); and the attitude of "Post Cold War Internationalism" (Holsti-Rosenau), or "liberal internationalism" (Schneider).

The conservatives responded favourably to images filtered through an East-West prism: bipolarity defined the structure of international politics; communism threatened stability and the domino theory of incremental victories was as valid as ever. According to this school, the Vietnam War was lost only due to a lack of sustained American will, and the outcome should not disqualify military power as an instrument to be applied to future problems in the periphery. The United States should therefore maintain an effective and employable military, whose size and potential power should be gauged in relation to that of the most likely opponent--the Soviet Union.

Liberals, on the other hand, responded to suggestions that the prism's images were outdated: the international system was evolving, with multipolarity displacing bipolarity as its defining characteristic. Security questions, traditionally placed atop the hierarchy of issue-areas, could therefore be demoted and a higher ranking given instead to the problems of distributive justice: alleviating world hunger; developing the Third World; and reinforcing

multilateral institutions, beginning with the United Nations. Military power would be relatively less important than before, and its use would probably revive the appreciable domestic consequences of Vietnam: economic inflation, coupled with an erosion in the remaining legitimacy of national political institutions. With political solutions preferred to military interventions, some proportion of defense spending could be diverted to allegedly more productive pursuits. Stability would be better assured by pursuing détente-style accommodation with Moscow, especially without the "linkage" of issues that had damaged the superpower relationship in the early 1970s.

In opposition to both forms of Internationalism, "Semi-Isolationism" (Holsti-Rosenau) or "isolationism" (Schneider) advocates the primacy of domestic problems over foreign concerns. External threats to American security were held to have diminished greatly with the rise of multipolarity and the lessened challenge posed by the Soviet Union, which had evolved into an inward-looking and conservative great power. Thus the United States should disentangle itself from its alliances and military commitments, retrench to a defensible security perimeter, and economize greatly on military expenditures. American security would more likely be threatened from within by misguided, adventurous leadership than from without; and the remaining external security threats, found in the dangers of arms races and accidental nuclear

war, could be lessened through far-reaching arms reduction agreements.

With these divisions persisting within the élite, clearly the formulation of enduring foreign policies had become more difficult, all the more so to the extent that the United States was especially reliant upon doctrine or universal principles as Crabb and Kennan suggest. Foreign policy had become more like domestic policy in that coalition formation was necessary to its success; policy thus rested on pluralities that were more unstable than consensus. Schneider suggested that coalition instabilities were largely responsible for the equivocation of foreign policy in the 1970s and 1980s, a period in which the United States continued to speak as a superpower but felt far less comfortable than before in acting as one.

Because conservative and liberal sentiments were held approximately evenly among the half of the public that responded favourably to internationalist cues, the continuity of a policy depended on either faction's ability to mobilize a majority of the other, (semi-) isolationist and less-attentive half of the public.¹¹ This latter group was subject to attitude shifts, however; these fluctuated between support for policies that evoked the rhetoric of "strength" and those that were presented as enhancing "peace." Thus

¹¹ Schneider, pp. 49-51.

military buildups drew support when the (semi-) isolationists believed them necessary for protection from the Russians, as they did during President Reagan's first term. However, once sufficient capabilities were seen to exist, a shift occurred toward the other valence issue of peace; and then the (semi-) isolationists allied with liberal internationalists, as they had done at least until the mid-term elections in 1986.¹²

Speculation necessarily surrounded the future course of America's international role. Perhaps nothing would change--the fracture of the foreign policy élite could well have been irreparable. Or, it might have been that a new consensus would be established, perhaps in support of isolationism, or either of the internationalist outlooks addressed above. Each of these outcomes would have long-term implications for the future conduct of international relations. The range of opportunities that would be available to other actors would be affected by the American posture as long as the United States remained a power above the rest, and the non-dominant states faced the prospect of revising their own role conceptions in response to either continued American vacillation or to a lurch toward isolationism or toward internationalism. This held especial potential significance

¹² See John E. Reilly, "America's State of Mind," Foreign Policy 66 (Spring 1987), pp. 39-56, for an analysis of the 1986 polling data gathered by the Chicago Council on Foreign Relations.

for Canada. For example, American isolationism had meant historically that even while taking pains to avoid the centre of the global stage the United States was active in the wings; the Monroe Doctrine exemplified this posture. Even in a new era of isolationism, America's defensive perimeter would certainly include its immediate neighbours; hegemony in this sense would be regional instead of global.

These appeared as long-term considerations, however, for given the numerous points of disagreement between internationalists, and the apparent wariness of the larger group of (semi-) isolationists, it seemed more likely that America's approach to the world would be defined within conditions of prevailing discord for some time. A more certain course may have depended on the emergence of a new doctrine, not of the type that smoothes out executive-legislative relations for the duration of a congressional term, but one whose explanations and prescriptions for international events could engage and sustain a broad base of support.

Presumably the SDI would be enveloped by such a doctrine once its overall technological character had formed--once the main technologies it embraced began to take on their standard form, and once their overall systemic interactions came to be better understood. But doctrine does not derive from technology alone; doctrine tends not only to evoke but also to shape technology as it comes to be fitted for its primary purposes. This was especially the case with

respect to a nested set of very complex communications technologies such as that underlying the SDI. Such complex development could not be a single event. Once the technology has emerged, it will have grown up in society and be a part of society, even though it will continue to evolve. In some degree this technology will emerge as a self-acting force, but the history of the development of communications technologies generally shows that they must be foreseen, wanted, worked for and achieved in the context of the society in which they are developed.

This may very well mean that the SDI would eventually be viewed as a, or even the, primary means through which a hegemonic restoration can be accomplished. With a new cloak of invulnerability the American nation could once again, as it did after the Second World War, seek to mold the world in whatever way and for whatever purposes an American national consensus sees fit. This opportunity, in turn, could help to resolve the contemporary political divisiveness. But the reciprocal implication was that how that divisiveness was resolved would have profound consequences not only for the SDI but also for the American posture in world affairs. The structure of the current division of public mood toward the international arena showed that at best two considerably different outcomes were about equally possible.

In the interim, however, divisiveness and immobilism dominated the American approach to world affairs, a

condition that probably acted to exacerbate the debates in related issue-areas such as the discussions of the capabilities that America would require. As we shall see, the SDI had already become the focus of heated disaccord within the community of strategic analysts. Contending doctrines exerted vectorial attraction over the research and development program, attempting to influence its rate and direction in ways that would alter the face of technology and that presented near-term choices for the United States and, by extension, for Canada.

Chapter 3

The SDI in America's Nuclear Debate

Canadians, as John Holmes noted in Life With Uncle, have tended to get far too much caught up in American political debates and so to lose sight of a separate Canadian perspective. In general, this was far too true. For our immediate purposes, however, it is precisely this American debate--looked at through American eyes--that we must examine. Let the reader rest assured that from this examination a Canadian perspective will eventually emerge. Before we can properly look at the North American defence situation, contemporary and prospective, we need to see how the Strategic Defence Initiative itself had been situated within the American strategic debate.

Strategic nuclear weapons had been a principal feature of the broad foreign policy debate, for it was ultimately upon these capabilities that America believed its influence to rest. And, just as disagreement persisted in the discourse of America's role abroad, so too did discord pervade the dialogue on the political and military uses of these

capabilities. The precise relationship of the two debates could not be ascertained at the time this was written. There appeared to be a kind of synergy at work, in that the position a policy maker or analyst took within one debate influenced his stance within the other. But even if not quite this direct, a relationship still seemed to exist, for within the strategic dialogue there was also the sense that American dominance had eroded; similarly a sharp division existed that prevented the effective continuity of policies addressed to the management or reversal of this erosion.

These features of the strategic debate--the perception of erosion and the onset of decline--preceded their inclusion within the broader role discussion. And it was not easy to link their appearance to the supposed causes of the fissures within the broader foreign policy consensus, for issues such as the Vietnam War appear to have evoked the limitations of military power in its conventional, not its nuclear, form. Nevertheless, the idea of limitations embraced strategic capabilities as well once nuclear politics addressed the issue of managing parity after an era of superiority.

Superiority had meant that only the United States was capable of causing massive damage to the Soviet Union, even after absorbing an all-out strike. But as the Soviets came also to acquire similar destructive potential, the nuclear relationship evolved toward a rough equality. Accordingly,

debating positions hardened within the American élite. Those analysts who had earlier argued for American restraint in expanding the nuclear force began a concerted push for arms control treaties. In opposition, those whose earlier arguments had centred on the threat of Soviet expansionism re-affirmed their faith in superior, usable military power as an instrument of containment. Thus the positions from which parity was addressed moved away from one another and firmed up into contending schools. Arms control vied with military build-ups as possible foundations for nuclear weapons policy, and as prisms with which to assess the utility of the spectrum of proposed developments, both offensive and defensive. It is through these prisms that strategic analysts contemplated the Strategic Defence Initiative, and extrapolated to arrive at their predictions of its consequences.

This chapter reviews the strategic debates of the 1970s and 1980s, establishing the parameters of the contending perspectives, and setting the context for the contemporary "countervailing" strategy and the alleged utility of ballistic missile defences.¹ The position taken here is that strategic-defence advocacy resulted in part from qualitative technological advances, but also that the advocacy rested

¹ Only the SDI's strategic consequences are addressed in this chapter; financial and engineering problems are dealt with in the following chapter.

more fundamentally on the continuing effort to devise a credible strategy for America's offensive nuclear forces.

This line of reasoning does not lead to the conclusion that strategic doctrines or their contenders drive the process of weapon acquisition or force posture to the exclusion of other processes, such as those captured by models of bureaucratic politics. Instead, strategic doctrine appears to fulfil three purposes, two external, and the other domestic.² As communicated to the Soviet leadership, it provides them with a point of reference with which to assess the credibility of American nuclear threats. As communicated to those subsidiary nations that make up the American sphere of hegemony, doctrines may serve to intimidate and to enhance obedience to American leadership. As communicated within the United States, doctrines serve as cognitive devices: they may be used to justify, explain, prescribe, and predict. In this latter fashion, they provide the weapons acquisition and deployment process with a source of legitimacy that is both political and intellectual.

² See Paul Buteux, "Strategy as Doctrine: The Political Uses of Strategic Doctrine in NATO," in Strategy, Doctrine, and the Politics of Alliance: Theatre Nuclear Force Modernisation in NATO, ed. by Buteux (Boulder, Colo.: Westview, 1983), pp. 1-31; see also Buteux, "Trends in Superpower Doctrine," in Nuclear Strategy and the Superpowers, Polaris Papers, Vol. 3 (Toronto: Canadian Institute of Strategic Studies, 1984), pp. 43-61.

Eroding Superiority, Emerging Parity

Until the mid-1950s, a broadly-held belief in the politico-military utility of nuclear weapons seemed unshakable. The Truman and Eisenhower administrations regarded the atomic and hydrogen bombs as effective instruments of containment. Because of clear American superiority in these capabilities, it was believed, direct military confrontation with the Soviet Union had been avoided. (Indirect confrontation such as the Korean War was blamed on other factors, not least the American failure to outline clearly its interests in the peripheral regions.) As long as the United States possessed its near-monopoly of strategic weapons, then these could serve as the backstop of containment, a point that Secretary of State John Foster Dulles made poignantly clear in his Massive Retaliation speech in 1954.³

However, through the 1950s and the 1960s, the Soviet Union's technological advances undermined America's faith in the "bomb." These advances were both real and perceived, as demonstrated by the politics of the "bomber gap" of the mid-1950s and the "missile gap" following the Sputnik launch in 1957. Very real was the prospect of Russian pre-eminence in rocketry. Less concrete was the claim that the United States faced grave, immediate risk, although both a growing Soviet

³ Fred A. Kaplan, Wizards of Armageddon (New York: Simon and Schuster, 1983), pp. 185-219.

bomber force and Sputnik reinforced doubts that containment could rely as easily as before on strategic nuclear capabilities.

As the Kennedy team of "whiz kids" took office, it was presented with the war plans--the Single Integrated Operational Plan (SIOP)--that were to guide the implementation of Massive Retaliation. SIOP-62 instructed the military to drop the entire nuclear arsenal in a single strike at military targets and cities in the Soviet Union and its communist ally, China. The plan would have been implemented in response to a Soviet invasion of Western Europe, real or imminent.⁴

Primarily because of the possibility that some Soviet nuclear forces might escape destruction, and thus be able to retaliate against American cities, the Kennedy administration set about revising the war plans and adopting a new doctrine. Clearly, some symmetry was needed between aggravation and punishment; otherwise the growing prospect of mutual disintegration might seem an incredible response to a hostile act perpetrated through conventional means.

The answer lay, briefly, in the doctrine of Flexible Response. Rather than attacking everything at once, the United States could hit a few targets and trust that

⁴ Desmond Ball, "The Development of the SIOP, 1960-1983," in Strategic Nuclear Targeting, ed. by Ball and Jeffrey Richelson (Ithaca: Cornell University Press, 1986), pp. 58-62.

remaining forces would be sufficient to deter a Soviet reply. The initial targets would be Soviet nuclear capabilities, as before, but other military targets within the bloc, including command and control posts, would be held in reserve. Civilian targets such as cities too could be initially spared. Signs of a forthcoming response would lead to a new round of American strikes against these targets. At the operational level of weapons policy, SIOP-63, the new war plan, stressed the opportunity for controlling the severity of the conflict through a restrained progression up a ladder of escalation.⁵ Thus was born the idea of a limited nuclear war, and the beginning of a doctrinal shift from the grand theory of deterrence-only to war-fighting.

The transition to the Flexible Response doctrine was not complete, however, because of some of its implications. There was a strong prospect of a severe arms race. If military, or "counter-force," targets were to top the list, then specific capabilities were required beyond the weapons already possessed for "counter-value" strikes against Soviet-bloc cities. Moreover, if a continuum now existed for measuring the severity of a nuclear conflict, then specific capabilities would have to be developed for the several points along the continuum. Whereas the previous doctrine had

⁵ Ball, pp. 63-64.

chosen among a range of procurement possibilities, Flexible Response implied the procurement of all possible capabilities.⁶ To be prepared for anything, the military required everything.

Secretary Robert McNamara, already disturbed by the size of his Defense Department's budget, came to the realization that far more financing would be required. More for this reason than any other, he began steering the military away from the new doctrine in an attempt to impose some spending restraint.⁷ The result was Assured Destruction, a variation upon Flexible Response that afforded the ostensible benefits of the earlier days of Massive Retaliation. It did this in two ways. At points along the conflict continuum below the range of nuclear weapons, improved conventional forces--including more substantial NATO contributions--would dissuade a Russian advance into Western Europe. At the strategic nuclear level, only a certain number of weapons would be required to bring about cataclysmic results. This criterion was defined by McNamara (and modified only slightly by his successors) as the weaponry sufficient to destroy

⁶ Alexander George and Richard Smoke, Deterrence in American Foreign Policy (New York: Columbia University Press, 1974), pp. 42-43.

⁷ Henry Rowen, McNamara's deputy for International Security Affairs, developed this in his "Evolution of Strategic Doctrine," in Strategic Thought in the Nuclear Age, ed. Laurence Martin (Baltimore: Johns Hopkins University Press, 1979), p. 146.

roughly 30 percent of the Soviet Union's population and some 65 percent of its industrial base--even after absorbing a Russian pre-emptive strike.⁸ For the Russians, as well as the Americans, the doctrine intentionally focused attention on the horrors of nuclear war rather than on the techniques of managing the conflict once it was underway.⁹ Accordingly, the promise of Assured Destruction was to reinforce deterrence and to ensure the stability of the relationship with an opponent whose own capabilities were already increasing toward numerical equivalence with the United States.

As reasonable as the doctrine may have seemed to Secretary McNamara and his supporters, it did not respond to all of the concerns arising from the transition toward parity. Two questions stood out in particular. First, although the United States undoubtedly possessed the capabilities, would it contemplate destroying the Soviet Union if that state's growing arsenal doomed the United States in return? Second,

⁸ United States, Secretary of Defense, Statement Before the House Armed Services Committee on the Fiscal Year 1966-1970 Defense Program and the 1966 Defense Budget (February 18, 1965), p. 39.

⁹ Rowen, p. 146, admitted that, "It was never proposed by McNamara or his staff that weapons actually be used in this way." Moreover, SIOP-63 remained in effect through this period, and emphasized counter-force strikes, pre-emptive if necessary, over countervalue attacks. See Desmond Ball, "U.S. Strategic Forces: How Would They Be Used?", International Security 7:3 (Winter 1982/83), pp. 31-60.

if emerging technologies could be adapted so as to deny Assured Destruction capabilities to the Russians, should they not be pressed into use?

The Johnson and Nixon administrations devised solutions that, in retrospect, were temporary. One way of denying equivalent capabilities to the Russians was a pre-emptive strike against their missile silos in the early phase of a crisis. Intercontinental Ballistic Missiles (ICBMs) guided with sufficient precision and targeted at least two-per-silo could probably prevent a Soviet launch and thus reduce American damage. In effect, this approach revived the Strategic Air Command's answer to a similar problem in the 1950s-- damage-limitation via a "blunting" mission.¹⁰ The research and development of these capabilities continued, but as a doctrinal contribution in the late 1960s, the idea faltered. Not only was it likely to prove politically unacceptable, it also could not overcome the two probable Soviet countermeasures of launching ICBMs on warning or of substituting submarine-based missiles for their more vulnerable cousins on land.

A second way of limiting damage was to erect a defence, or finding a means to destroy incoming missiles or otherwise preventing them from blotting out their targets. The Army had been working up prototypes for years, and the Joint

¹⁰ See David A. Rosenberg, "Origins of Overkill," International Security 7:4 (Spring 1983), pp. 3-71.

Chiefs of Staff urged that these be developed into a full population defence.¹¹ Yet McNamara and doctrinal allies argued that the technologies were inadequate for the task, and that the strategic consequences would work against American interests. Any prospect of stabilizing the arms race would be lost, for the Russians would undoubtedly accelerate their pursuit of Assured Destruction capabilities, acquiring even more missiles than they would seek in a solely offensive competition.¹² Moreover, crisis stability would also be lost; as defence scientists Herbert York and Jerome Weisner warned, a truly efficient Anti-Ballistic Missile (ABM) system possessed exclusively by one of the adversaries "would effectively nullify the deterrent force of the other, exposing the latter to a first attack against which it could not retaliate."¹³ Missile defences fell gradually into disrepute; although proponents were successful in forcing the deployment of a limited system around one silo field, this defence soon found a different use from the one for which it had been developed.

¹¹ Kaplan, pp. 343-47.

¹² Robert S. McNamara, "Dynamics of the Nuclear Balance," Department of State Bulletin 62 (October 9, 1967).

¹³ Herbert York and Jerome Weisner, "National Security and the Nuclear Test Ban," Scientific American (October 1964), in Lawrence Freedman, Evolution of Nuclear Strategy (New York: Macmillan, 1983), pp. 252-53.

Having excluded the two defensive options (temporarily, as it turned out), the Johnson and Nixon administrations turned to the questions arising from the approximate symmetry that was emerging in offensive forces. During the Johnson years, the United States retained a clear lead in quantitative indicators of strategic nuclear strength, but the lead was expected to narrow; whether it would dwindle to nothing and settle in at a numerical equilibrium, or transform into a lag that could require further American acquisitions, was a popular debate.

Hoping to head off the latter, more ominous possibility, and also to improve stability by foreclosing the ABM option, the Johnson administration opened the Strategic Arms Limitation Talks (SALT) in 1969 that led to the SALT I accords of 1972-74. These set force ceilings as follows: the United States would have 1054 land-based missile launchers and 656 submarine launch tubes; the latter could be increased by 54 (to a total of 710) provided that an equal number of ICBM launchers was removed from service. The Soviet Union would have 1608 ICBMs and 740 Submarine-Launched Ballistic Missiles (SLBMs); an additional 210 sea-based launchers could be substituted for ICBMs. No ceilings were placed on airborne weapons, a category in which the United States had a substantial lead. Additionally, the ABM Treaty of 1972 permitted both states to deploy defences around two sites (the national capital and one silo field) but

prohibited all other deployments and restricted the development and testing of ABM systems or components.

For the United States, the agreements appeared to answer the questions arising from Assured Destruction. Both sides would have approximately equal capabilities, and neither would expand defenses that could reduce the vulnerability of its population. Not resolved by the agreements was the issue of damage-limitation by emerging counter-force missile technologies, but this was expected to be dealt with in the follow-on negotiations.

Thus the doctrine of Assured Destruction rested, essentially, on three principles of superpower equality: both sides would retain forces that were roughly equal in number and in the destruction they could cause, and both had relatively secure second-strike forces at sea. Also, both appeared to have committed themselves to the negotiated management of strategic issues, particularly through the Standing Consultative Committee established by the SALT accords, and to the promise of further arms-control bargaining. In effect, America's acceptance of a mutual form of Assured Destruction represented a policy of adjustment to the diffusion of power, one that attempted--through political means--to preserve a "stable" status quo.

From this perspective the advent of parity could not impel significant changes in the strategic relationship. The United States could adjust relatively easily, for the

Soviet buildup did not reduce America's Assured Destruction capability. Rather, deterrence was becoming a shared condition, as both sides possessed secure second-strike forces. As foretold by Thomas Schelling, each superpower would hold hostage the other's population to prevent nuclear war.¹⁴ Stability seemed assured, for the United States believed that it could not bring itself to initiate such a conflict in any case other than a serious Soviet challenge to vital American interests; and as long as the American threat remained credible in Soviet eyes, no such challenge could rationally be contemplated.

Moreover, if both superpowers had adequately sized forces that were essentially equivalent, then a basis existed for slowing and perhaps ceasing the arms race. It seemed entirely reasonable to conclude, as had National Security Advisor Henry Kissinger, that "each increment of power does not necessarily represent an increment of usable political strength."¹⁵ Certainly the Russians seemed interested; their willingness to conclude the SALT and ABM treaties appeared to confirm that they shared the arms-control

¹⁴ Thomas C. Schelling, The Strategy of Conflict (Cambridge, Mass.: Harvard University Press, 1960), p. 239.

¹⁵ United States, Senate, Foreign Relations Committee, Strategic Arms Limitation Talks (Washington: Government Printing Office, 1972), in Lawrence Freedman, The Evolution of Nuclear Strategy (London: International Institute for Strategic Studies, 1981), p. 364.

assumptions that nuclear superiority was chimerical and that political solutions could be effective.

Parity Undermined

The conservative strategists' critique of the established policy broke into the open as the SALT I accords took effect. It revolved essentially around two themes: was Assured Destruction the best form of deterrence? And did the Russians approach strategic policy-making with the same beliefs and assumptions as those held by the architects of the American doctrine?

Developments in Soviet capabilities through the 1970s provided these critics with ample evidence of Soviet strategic thought differing from the American. SALT had given the Soviets a slight numerical edge in land- and sea-based missiles, but had only barely begun to address the problem of the Soviet missiles' larger payload capacities. The conservatives argued that the edge could become crucial once the Soviets emulated American technological advances. By employing Multiple Independently-Targetable Re-entry Vehicles

(MIRVs),¹⁶ the Russians could deploy more warheads than the United States even without adding to their delivery systems. Moreover, as Soviet guidance systems improved, the Russians would have a larger, more accurate, more threatening force, advantageous politically and militarily. Hence the emergence of a contender to America's doctrinal orthodoxy--one that relied on concepts of "war-fighting"--flexibility, survivability, escalation control and, ultimately, ballistic missile defence--to address the projected decline in American strategic power.

Paradoxically, the critique began with the Nixon administration: even as it pursued a treaty to codify the conditions of Mutual Assured Destruction, it began chipping away at the doctrine it had inherited.

In 1973, Fred Iklé, the incoming head of the Arms Control and Disarmament Agency, castigated the established doctrine for balancing mutual destruction upon a hair-trigger. While the doctrine might deter rational enemies from striking, Iklé warned that it was less effective against leaders seized by fits of irrationality or manipulated by their military advisors, and useless against an accidental launch.

¹⁶ MIRVs had been developed initially as a means of ensuring target destruction. Several warheads seated upon a payload platform, or "bus," could be aimed at separate targets, arriving individually or in combinations. Such forms of "structured" attack were held capable of exhausting defensive interceptors; in the absence of ABM, they increased the probability that even "hardened" targets (especially silos) would be damaged beyond repair, if not destroyed.

All of these points had been raised previously; the importance of Iklé's critique lay in his staking out arguments for controlled counter-force responses--themes that would dominate strategic discussion through the rest of the decade. These remedies focused on the need for very survivable ICBMs, the ability to control a second strike, and to shift targets from populations to "military, industrial and transportation assets--the sinews and muscles of the regime initiating war . . . and the risk of the destruction of cities would still loom in the background."¹⁷ By thus shifting away from the prescriptions of McNamara's Assured Destruction, and exhibiting the capabilities to fight a nuclear war, the deficiencies of deterrence should be corrected.

Iklé's reasoning reflected that of the administration he was joining. A full strategy review was underway as his article appeared. This effort had grown from President Nixon's warning to Congress that Assured Destruction, while probably effective in deterring a massive, bolt-from-the-blue strike, might not hold up against a limited attack. Rhetorically, Nixon asked:

Should a President, in the event of a nuclear attack, be left with the single option of ordering the mass destruction of enemy civilians, in the face of certainty that it would be followed by the mass slaughter of Americans? Should the concept of as-

¹⁷ Fred Charles Iklé, "Can Nuclear Deterrence Last Out the Century?," Foreign Affairs 51:2 (January 1973), pp. 282-84.

sured destruction be narrowly defined and should it be the only measure of our ability to deter the variety of threats we may face?¹⁸

Nixon was overstating the case at the time; he had more than the "single option."¹⁹ Yet his question was important, for it legitimized a public re-opening of the Flexible Response debate that McNamara had closed, and that Iklé was later stoking up.

Subsequently, the administration produced the core of a new doctrine in its proclamation of Limited Nuclear Options in 1974. James Schlesinger, the secretary of defense, established "intra-war deterrence" as the goal of the new doctrine: in responding to a limited strike, the United States would seek to limit escalation and to retaliate against

¹⁸ United States, White House, United States Foreign Policy for the 1970s: A New Strategy for Peace (Washington: Government Printing Office, 1970), p. 122.

¹⁹ As James Schlesinger, his second secretary of defense, would confirm in 1974, the war plans in existence during Nixon's speech were the same as those set out by McNamara's team in 1962. SIOP-63 had not been changed; options continued to exist. To be fair to Nixon, though, the effect of any of these options would probably have met the criteria of Assured Destruction because of the significant rise in targets and warheads allotted to the SIOP-63 missions. See Lynn Etheridge Davis, Limited Nuclear Options: Deterrence and the New American Doctrine, Adelphi Papers, Vol. 121 (London: International Institute for Strategic Studies, 1976), pp. 3-5.

military and economic targets, withholding population attacks as "incentives" to commence negotiations.²⁰

The assumptions underlying the new doctrine indicated a fundamental shift away from the premises of Assured Destruction.²¹ Deterrence was now held to rest not only upon the existence of nuclear weapons in enormously destructive quantities, but also upon explicit, communicable plans for their use. Moreover, the doctrine assumed that a threat to mete out indiscriminate punishment was less believable in the case of a limited attack than a threat to deny the attainment of the attack's objectives.

In itself, the flexibility issue became a focal point for debate with Assured Destruction's adherents (see below). But these tensions set up by the new doctrine were exacerbated by the legitimacy that it provided for counter-force capabilities. If the United States required the ability to control the escalation of limited conflict, then it needed capabilities that could survive the course of the confrontation. These included the precision targeting available from the new MIRVs, and the requirement that missiles and their command networks be able to ride out a possibly protracted series of Soviet counter-force strikes--a requirement later

²⁰ United States, Secretary of Defense, Report to Congress, Fiscal Year 1975 (Washington: Government Printing Office, 1974), p. 5.

²¹ Davis, p. 8.

invoked as a justification for the revival of ballistic missile defence advocacy.

Besides these requirements and assumptions, the doctrine depended critically on the assumption that the Russians could contemplate limited, purposeful attacks. Americans had examined such options a decade earlier and, dismayed by the consequences, had placed their faith in Assured Destruction instead. In rebuttal, the more conservative school advanced the premise that the United States had been misreading the Soviet Union and was thus distorting Soviet behaviour by projecting onto it American purposes. The critical error lay in the tendency "to perceive the Soviet leaders as thinking and seeing things as we do and, in effect, to project into Soviet affairs a mirror-image of ourselves and of our own concepts."²² Thus American policy was likely to be flawed if based on the wrong perceptions.

Without confirmation of this suspicion, the war-fighting challenge to doctrinal orthodoxy could not be sustained for long. Thus adherents of the new doctrine sought, and found, evidence of Soviet capabilities and intentions to slip out from the constraints apparently imposed by Assured Destruction. Their tactics took two forms. The first was to demonstrate that the Soviets were acquiring capabilities

²² Leon Gouré, Foy D. Kohler, and Mose L. Harvey, The Role of Nuclear Forces in Current Soviet Strategy (Miami, Fla.: University of Miami Press, 1974), p. x.

that could be used in limited, controlled strikes. The second was to demonstrate that the Russians were capable of contemplating such a move.

The first of these stratagems was used by Paul Nitze in his elite-targeted articles of the mid-1970s.²³ Nitze posited a counter-force exchange initiated by the Russians, after which the throw-weight of their surviving ICBMs would exceed that remaining to the United States in both relative and absolute comparisons. Working from a trend assessment of the two arsenals that incorporated the effects of the early SALT II proposals, Nitze warned that the Soviets "would hold superiority in all indices of capability" by the end of the decade, giving them a "theoretical war-winning capability."

If intentions mattered, then there seemed ample evidence of these as well, particularly once the Soviets' military doctrine and their negotiating record in SALT were invoked. Nitze portrayed the Russian SALT team's insistence upon "equal security" for the superpowers as a thinly-disguised bid for strategic superiority. More ideologically, former Moscow ambassador Foy Kohler asserted during the SALT II debate that the Russians were manipulating America's "virtual cult of arms control" along the way to their

²³ Paul H. Nitze, "Assuring Strategic Stability in an Era of Detente," Foreign Affairs 54:2 (January 1976), pp. 207-32; and "Deterring Our Deterrent," Foreign Policy 25 (Winter 1976/77), pp. 195-210.

ultimate goal, namely "the worldwide triumph of the communist creed."²⁴

However, whether such intentions existed, or whether it could be rational for any Soviet leader to order such a counter-force strike was hardly an issue for the conservative school. What mattered was that the capabilities were being developed; thus the attack could occur--it represented the "worst-case scenario" that underlies military planning--and it appeared to require an American response. As Colin Gray and Keith Payne insisted, in a crisis the United States may be confronted by "desperate and determined Soviet leaders" believing, on the recommendation of their military advisors or their own perceptions, that escalation into a preemptive counter-force strike was the best of a bad lot of choices.²⁵

If the Russians could see some purpose to nuclear weapons other than simply averting massive war, then it seemed reasonable to the conservative school that America should follow suit. Some way had to be found to transform missiles into instruments of political and military value and thus to re-introduce bargaining across the full spectrum of super-

²⁴ Foy D. Kohler, SALT II: How Not to Negotiate With the Russians (Miami: Advanced International Studies Institute, University of Miami, 1979), pp. 5-8.

²⁵ Colin S. Gray and Keith B. Payne, "Victory is Possible," Foreign Policy 39 (Summer 1980), pp. 14-27; see also Gray, "Nuclear Strategy: The Case for a Theory of Victory," International Security 4:1 (Summer 1979), pp. 54-87.

power relations. Limited nuclear war might be purposeful, in this view. Evidently the Soviets understood such reasoning; and so the United States should acquire the necessary capabilities and display to the Russians a willingness to counter all forms of nuclear intimidation. In short, the United States required a war-fighting strategy and the weapons with which to make its threat credible.

This prescription for a war-fighting doctrine has had a greater influence on strategic policy through the late 1970s and early 1980s than the prior doctrine of Assured Destruction. In the mid-1970s, the two coexisted uncomfortably, particularly in the Carter administration that had taken office proclaiming the virtues of arms control and pressing ahead with its inherited SALT agenda. By mid-term, its full strategic review was complete and the war-fighting doctrine was clearly ascendant. Administration spokesmen began stressing the combination of flexibility and counter-force, and Schlesinger's Limited Nuclear Options were propelled further toward escalation control.

By 1980, the SIOP was being fine-tuned and the declaratory policy was described by Defense Secretary Harold Brown as one of "countervailing" power, measured in the balance of strike-surviving counter-force weapons. His statements to

Congress confirmed the convergence of doctrine and employment policy:

Besides our power to devastate the full target system of the U.S.S.R., the United States would have the option for more selective, lesser retaliatory attacks that would exact a prohibitively high price from the things the Soviet leadership prizes most-- political and military control, nuclear and conventional forces, and the economic base needed to sustain a nuclear war.²⁶

This declared escalation-control capability, it was felt, should impress upon even irrational Russian leaders the conviction that not even the most controlled counter-force strike could lead to an eventual victory.

The same philosophy was been expressed by the Reagan administration. Defense Secretary Weinberger's justification in further refining the SIOP was that "secure deterrence should be based on the threat to destroy what the Soviet leadership values most highly: namely, itself, its military power and political control capabilities, and its industrial ability to wage war."²⁷

The extent of the divergence from the basic framework of Assured Destruction was exemplified by the countervailing strategy's requirements for further developments in

²⁶ United States, Secretary of Defense, Annual Report to Congress of the Secretary of Defense, Fiscal Year 1981 (Washington: Government Printing Office, 1980), p. 39.

²⁷ Weinberger, "U.S. Defense Strategy," Foreign Affairs 64:4 (Spring 1986), p. 682.

capabilities. In particular, three developments were doctrinally justified: targeting plans required far greater flexibility than that established by the Nixon White House, so that limited strikes could be made against precise targets; further accuracy gains were required of American forces, thus justifying the acquisition of the explicitly counter-force MX (Peacekeeper), Trident II, and cruise missiles;²⁸ and measures were badly needed to reduce the apparent vulnerability of the land-based forces and the command and control networks to Soviet attack.

Strategic Defence Revived

It was the third of these doctrinal mandates that formed much of the conservative school's justification for ballistic missile defences--the need to ensure that America's most precise weapons and their links to the command authorities would survive a series of nuclear exchanges. As

²⁸ Debating the capabilities of the cruise was a popular parlour game for strategists; several objected that the cruise was simply a retaliatory weapon. While it may or may not have had first-strike capabilities due to its relative slowness and intermediate range, its specifications as an air-launched weapon confirmed it had a far greater counter-silo capability than any other missile in the American arsenal (200 kilotons at a Circular Error Probable of 0.16 nautical miles, or roughly 300 metres). See Nuclear Weapons, Counter-force, and Arms Reduction Proposals (Ottawa, Canadian Institute for International Peace and Security, 1986), pp. 11-17.

we have seen, this condition of vulnerability had been identified earlier by Nitze and other analysts. Support for their views was increasing by the end of the decade.

Part of the reason for this was the perception of another "arms control failure." SALT II had introduced some of the limits absent in SALT I, such as throw-weights and numbers of warheads. Force ceilings were set through 1985 for both sides at 2,250 ballistic missile launchers (based on land and at sea; those based on aircraft were prohibited), with a sub-ceiling of 1,320 MIRV launchers within which only 820 ICBM launchers could be MIRV-capable. The two arsenals remained awesomely large, but were to be drawn down in the SALT III negotiations. Nevertheless, the conservatives could argue that, for the duration of the treaty, the Russians would still enjoy superior throw-weight in most weapons categories and thus more than sufficient capability to threaten the survivability of American ICBMs.

Strategists devised several possible solutions to the "window-of-vulnerability" problem. The first of these continued the premise that "the best defence is a good offence," with an argument that emphasized the damage-limitation capability of ICBMs. Unlike other weapons, the ICBMs could be counted on to obliterate Soviet silos and to decapitate the Russian command and control network. Yet there were problems with this position. It was never clear, for instance, whether the United States should strive for a

large, first-strike counter-force capability that could preempt Soviet attack preparations;²⁹ or whether it needed only secure, second-strike counter-force reserves, as the Carter administration appeared to believe.³⁰

To rely simply on more potent offensive capabilities was not fully reassuring for the mainstream strategists, who turned attention as well to the possibilities of passive defences.³¹ The leading proposals in this direction included a number of deceptive-basing schemes discussed in the context of the MX (Peacekeeper) missile program, and the ICBM hide-and-seek tactic dominated strategic discussion well into the first term of the Reagan administration.

Another possibility was simply to phase out land-based missiles, transforming America's strategic triad into a dyad of bombers and submarine-based missiles (more properly a pentad, with the advent of cruise missiles and their three basing techniques). Counter-force capabilities could be retained in the newly acquired generation of Trident II

²⁹ For an exuberant celebration of this prospect, see Carl H. Builder, The Case for First-Strike Counterforce Capabilities (Santa Monica, Calif.: Rand, 1978).

³⁰ This position was well argued by Victor Utgoff, a senior staff member of Carter's National Security Council. See his "In Defense of Counterforce," International Security 6:4 (Spring 1982), pp. 44-60.

³¹ A distinction was usually drawn between "active" measures that attempt defensive actions by attacking incoming weapons (for example, ballistic missile defence), and "passive" measures that take no action against the incoming devices themselves (such as hardened silos).

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SLBMs. Yet this option was never seriously considered by the conservative strategists, who regarded ICBMs as invaluable for their speed and accuracy, and for their communication links that were relatively secure when compared to the problems of transmitting orders to distant, hiding submarines.

As proposals for passive measures faltered, missile defences appeared as a tantalizing, if unproved, solution to the vulnerability problem. In theory, a completely-effective defence erected around a silo could prevent any incoming warheads from reaching their target. Also in theory, defences that were not this effective could still extend the silo's lifespan by raising the number of warheads that an attacker would have to assign to a silo to assure its obliteration. This number represented an "attack price." In an envisaged Soviet counter-force strike plan--one directed against American silos that would attempt to minimize deaths among the people unfortunate enough to live near the targets--the defences could raise this "attack price" beyond the maximum that the Soviets could contemplate. In the context of "limited" war, this maximum price should equal the number of deaths that would draw an American counter-value response. By this line of reasoning, Russian planners who were uncertain about the success of a damage-limiting strike against American ICBMs should be deterred from launching it.

However attractive the concept of ballistic missile defence, much depended on whether the previous, cost-ineffective system could be significantly improved by incorporating the technologies then under development. Strategic theorists agreed among themselves that a Safeguard-type defence could probably set an attack price of two, forcing Soviet planners to double up the number of warheads allotted per silo; more optimistic predictions approached an attack price of eight.³²

The revival of strategic-defence advocacy was a sluggish one, though. Jan Lodal had broached the possibility in a 1976 rebuttal to Nitze's argument of emerging ICBM vulnerability, invoking missile defences as a more probable counter-measure than Nitze's proposal to bury the missiles much farther underground. Lodal contended that defensive innovations should be investigated, but only subsequent to efforts to bargain away the problem through arms control.³³

By 1980, in the aftermath of the SALT II debacle, Lodal was staking out territory that would later be seized by the Reagan administration. He contended that nuclear credibility would increasingly rest on the capability "to fight and

³² Ashton B. Carter, "BMD Applications: Performance and Limitations," in Ballistic Missile Defense, ed. by Carter and David N. Schwartz (Washington: Brookings, 1984), p. 112.

³³ Jan M. Lodal, "Assuring Strategic Stability: An Alternative View," Foreign Affairs 54:3 (April 1976), p. 475.

survive a nuclear war, no matter how grim the prospects." In addition to further counter-force missile acquisitions, the United States should revive its long-forgotten civil-defence efforts, and should direct its ABM program towards deployments:

both hardpoint and limited area defenses could have clear and immediate military usefulness. Such defenses would increase deterrence both by improving the war-fighting capability of our force and its assured destruction capability.³⁴

Similarly, Gray and Payne stressed an inescapable link between strategic defences and credible offences. On the one hand, a president who was convinced that even limited nuclear retaliation would lead to unacceptable American damages would never stand up to Soviet adventuresomeness, they contended; in such a case the president would find deterrence working--but against himself, not the opponent. On the other hand, defences that were able to hold American deaths down to some more acceptable number should strengthen the perception by the Russians of a risk-tolerant president determined to fight back and if necessary to destroy the Soviet state.³⁵

The Reagan administration, as it prepared to take office, had articulated policy goals that paralleled those

³⁴ Lodal, "Deterrence and Nuclear Strategy," Daedalus 109:4 (Fall 1980), p. 167.

³⁵ Gray and Payne (note 25), pp 24-25.

of the conservative strategists. Reagan's Strategic Guidance policy paper, prepared during the campaign, committed his presidency to reviving BMD deployment,³⁶ although there had been no agreement among the transition team on how to proceed.³⁷ No policy parameters could be established in the absence of ideas on how to generate new technologies and to adapt them to the role of BMD. Consequently, BMD was not included among the administration's immediate strategic priorities in the first year of office.³⁸

It fell to the strategists and the technologists to sell the President and his advisors on the now-familiar concepts of a tiered, advanced-technology defensive system.

³⁶ "The United States will not accept permanent abstention from the right to protect its citizens from the effects of a nuclear attack." Quoted in Hedrick Smith et al., Reagan the Man, the President, (New York: Macmillan, 1980), p. 87. Similarly, the Republican Party platform called for "vigorous" research and development of both existing and anticipated BMD technologies. See "The Election Platforms," Aviation Week and Space Technology, August 25, 1980, p. 9.

³⁷ The factions are described in Clarence A. Robinson, Jr., "Rancor Erupts Within Transition Team," Aviation Week and Space Technology, November 17, 1980, pp. 21-3.

³⁸ The Reagan administration's intended strategic course was outlined in a series of press conferences and interviews between January and February, 1981. Relevant excerpts are found in "The Reagan Administration and Superpower Relations," Survival 23:3 (May/June 1981), pp. 129-33. The administration's commitment to BMD in early 1982 was cautious. Weinberger stated that the research and development would concentrate on the existing Low Altitude Defence System (LOADS); a vague promise was made to continue work on an "exoatmospheric overlay." See United States, Secretary of Defense, Annual Report to Congress, Fiscal Year 1983 (Washington: Government Printing Office, 1982), p. 65.

This process had been underway since 1979, advanced by the principal figures of scientist Edward Teller, and retired air force general Daniel Graham, both affiliated with the conservative Heritage Foundation.

Teller, remembered as the father of the hydrogen bomb, had called the attention of the Senate Armed Services Committee to "striking new advances" in particle-beam research. His cause was taken up in Congress, with Senator Malcolm Wallop his most committed supporter. In 1979, enthused by advances in laser research, Wallop eagerly overstated the case for a space-based defensive system: "Technology now promises a considerable measure of safety from the threat of ballistic missiles."³⁹

Wallop was exaggerating the case, but his claims caught the attention of other congressmen who were worrying about the deterioration of arms control and the demise of détente apparently evident in fresh Soviet manoeuvring on the American periphery. In the more conservative quarters of Capitol Hill, staff members told reporters: "people here are thinking about war with the Soviets as a real possibility."⁴⁰ Wallop's enthusiasm for Teller's apparent solution

³⁹ Malcolm A. Wallop, "Opportunities and Imperatives of Ballistic Missile Defense," Strategic Review 7:4 (Fall 1979), pp. 13-21.

⁴⁰ Cited by Clarence A. Robinson, "Missile Defense Gains Support," Aviation Week and Space Technology, October 22, 1979, p. 14.

was carried over into briefings that he arranged for other senators, particularly one in December, 1979, at which aerospace industry representatives sold members of the Armed Services and Budget committees on the virtues of lasers.⁴¹ Although the subsequent election in 1980 altered the composition of these committees, the idea of employing advanced technologies had been grasped by senatorial minds.

Although Teller was often credited with carrying the idea along to President Reagan, General Graham deserved equal billing. Teller was most probably the source of a large part of the technological optimism that underlay the Strategic Defence Initiative; in meeting the president in 1981, he provided most glowing accounts of particle-beam research conducted at his Lawrence Livermore laboratory. But it was apparently Graham who combined the technologies with the strategic thinking in a way that captured the administration's imagination.

Graham's contribution to the SDI was twofold. The first aspect was the idea of adding a third, space-based layer to the two-tiered (terminal and endoatmospheric)

⁴¹ The briefing was based on the Alpha laser, the Lode mirror, and the Talon Gold tracking device, of which more is said in the following chapter. Sen. Fritz Hollings, then the Budget Committee chairman, approved the idea in a comment that participants have paraphrased thus: "It's only two-and-a-half billion dollars. Make it look like an aircraft carrier and I'll slip it into the budget." Cited in David Frum, "In Defence of Strategic Defence," Saturday Night 101 (January 1986), p. 18.

Safeguard system, and of combining even partially effective layers to establish a higher overall efficiency of missile defences.⁴² The second aspect was the sense of urgency that Graham conveyed to the president and his senior advisors. The Reagan team believed that the Soviet Union's research was now paralleling the American efforts of the 1970s. Graham's argument, that an American program to deploy missile defences immediately and to invest heavily in technological research for a subsequent system that could counteract potential Soviet advances, was carried to the highest reaches of the defence policy-making establishment.⁴³ By early 1982, Graham had persuaded Reagan, Defense Secretary Weinberger, the Joint Chiefs of Staff, and about one-tenth of the Senate of the need for a focused research program, if not for immediate missile defence deployments.⁴⁴

⁴² Daniel O. Graham, High Frontier, (New York: Doherty, 1982).

⁴³ That the SDI resulted from this was indication of Graham's tenacity, for he had been turned away repeatedly by Secretaries Weinberger, Haig and Shultz, and their officials. It appears to have been Teller, and Reagan's "kitchen cabinet," who persuaded the president to see Graham. For a summary of correspondence during this period, see David A. Lynch, "Administration Officials Rejected Missile Defense Before Reagan Speech," Defense Week, May 4, 1987, p. 7.

⁴⁴ Keith B. Payne, Strategic Defense: "Star Wars" in Perspective, (Lanham, Md.: Hamilton Press, 1986), pp. 39-40.

Strategic Defences Debated

The SDI debate that erupted in the wake of President Reagan's televised speech on March 23, 1983, concentrated upon many strategic issues: What was the value of erecting some form of defence against Soviet ballistic missiles? Should a defensive shield be built? Must it be perfect, able to protect the American people from a Soviet attack of any magnitude? Would partial defences suffice--erected, perhaps, around American military installations and missile silos? Was the technology available, or likely to become available, for any of these strategic choices? The answers rested on considerations of political and military utility, and focused especially on the issues of strategic and crisis stability.⁴⁵ That divergent recommendations resulted was to be expected, for the initial analyses were largely derived from the doctrinal positions described thus far.

Discussions of the SDI's strategic consequences generally proceeded at two levels. The first dealt with the

⁴⁵ These aspects of stability have been implicit in the doctrinal discussion above. Briefly, strategic stability was said to exist when neither superpower was engaged in qualitative and quantitative additions to its nuclear arsenal. Crisis stability was said to exist when, during heightened bilateral tensions, neither perceived an advantage in escalating through the nuclear interval of the conflict continuum. A variation of the latter was "transitional" stability, defined as a low likelihood of pre-emptive measures being taken during the period in which defensive systems would be deployed.

comprehensive area (or population) defence that was implied by the president's speech, in which he called for research into rendering nuclear weapons "impotent and obsolete." The second proceeded along the level of less-effective defences for less-ambitious uses, such as the protection of land-based nuclear weapons and other military targets, including command mechanisms.

Although the president gave no specific research guidance, it seemed clear in retrospect that his vision of a comprehensive population defence would rely principally on a system of beam weapons, based either in space or on the earth, that would provide a virtually impenetrable shield against ballistic missile attacks. By thus eliminating the assurance of destruction, the offensive arms race should draw to an end.

In this claim for stability lay the great appeal of the SDI. Its supporters proclaimed the possible triumph of "assured-survival" over assured destruction, a victory to be accompanied by a high degree of stability. The more substantive comment on this point was Weinberger's statement: "Effective defenses that reduce the utility of ballistic missiles and other offensive forces have the potential for increasing the likelihood of negotiated reductions of those

offensive forces."⁴⁶ These reductions might ultimately leave each side with "dozens" of weapons rather than thousands, according to George Keyworth, Reagan's former science advisor.⁴⁷ Regarding transitional stability, especially during a unilateral American deployment of space-based defences, Keith Payne (a staunch administration supporter) argued that defence-suppression attacks would be dissuaded by the continuing existence of offensive forces.⁴⁸ Evidently, in this view negotiated reductions upon offensive forces were contingent upon the prior deployment of a fully effective defence.

The stance that Reagan adopted that night could not have been derived from either of the doctrines described above; rather, in its appeal to transcend the doctrinal debate through unilateral means, it reflected either idealism or a presidential nostalgia for the pre-nuclear era.⁴⁹ However, many of the strategic arguments against the comprehensive defence did procede from a doctrinal position--that of

⁴⁶ United States, Secretary of Defense, Report to Congress, Fiscal Year 1985 (Washington: Government Printing Office, 1984), p. 58.

⁴⁷ George A. Keyworth II, "The Case for Strategic Defense: An Option for a World Disarmed," Issues in Science and Technology 1:1 (Fall, 1984), p. 43.

⁴⁸ Payne, pp. 110-11.

⁴⁹ On both aspects, see Jeff Smith, "Reagan, Star Wars, and American Culture," Bulletin of the Atomic Scientists 43:1 (January-February 1987), pp. 19-25.

Assured Destruction--which, ironically, shared the president's goal of radically reducing nuclear weapons' contribution to security.

The Assured Destruction, or "minimum deterrence," critique followed much along the lines that it traced out in the 1960s and 1970s in favour of the ABM Treaty, and against the Limited Nuclear Options that were introduced in 1974. As we have seen, the doctrine insisted that deterrence depended on the ability of nuclear weapons to punish an aggressor beyond any conceivably acceptable level. The weapons could be used for this purpose only; more-ambitious strategies that contemplated dynamic military balances, such as those embodied by the war-fighting doctrine, were destined to fail.⁵⁰ The hostage principle is of central relevance; any development that might reduce the vulnerability of urban areas was undesirable for it would directly deny the necessary and sufficient condition for deterrence.

From this perspective, doctrinal adherents should have had no reason to oppose comprehensive defences were they deployed by both superpowers to the degree of near-equal effectiveness. Still, opposition occurred, primarily because of misgivings about the "contributions" of technology:

⁵⁰ As the primary proponent of the doctrine had reasserted, "nuclear weapons serve no military purpose whatsoever. They are totally useless--except only to deter one's opponent from using them." Robert S. McNamara, "The Military Role of Nuclear Weapons: Perceptions and Misperceptions," Foreign Affairs 62:1 (Fall 1983), p. 79.

developments that offered qualitative improvements for one side's weapons were bound to be pursued and eventually matched by the other side. This was McNamara's "action-reaction" argument against counter-force and defensive weapons in the 1960s,⁵¹ and it was a core argument in the 1980s against relying entirely on defensive technologies in the future. As McNamara's contemporary "Gang of Four" argued:

Ever since Hiroshima it has been a cardinal principle of Soviet policy that the Soviet Union must have a match for any American nuclear capability. It is fanciful in the extreme to suppose that the prospect of any new American deployment which could undermine the effectiveness of Soviet missile forces will not be met by a most determined and sustained response.⁵²

According to these critics, a principal feature of the Soviet response would be the development of methods to suppress or to penetrate the defence.

Hence, a technologically driven arms race was predicted to occur in two dimensions. The first of these was the engineering of new weapons classes against which the defence would have no immediate recourse and thus no deterrent. The

⁵¹ United States, Secretary of Defense, "Remarks to United Press International Editors and Publishers," September 18, 1967; reprinted as Ch. 4 of Robert S. McNamara, The Essence of Security: Reflections in Office (New York: Harper and Row, 1968), pp. 58-9.

⁵² McGeorge Bundy, George F. Kennan, Robert S. McNamara, and Gerard Smith, "The President's Choice: Star Wars or Arms Control," Foreign Affairs 63:2 (Winter 1984-85), p. 267.

cruise missile was typically offered as a representative, and existing, example; others were anticipated.⁵³ The second was a dialectical struggle between "counter-measures" and "counter-counter-measures" that would focus on advanced penetration aids.⁵⁴ For example, Charles Glaser argued that if each side had perfectly effective area defences that negated the other's assured-destruction capabilities, then a technical breakthrough by one side--even if it allowed only ten warheads to penetrate--would represent a powerful strategic advantage.⁵⁵ Accordingly, "assured survival" would be temporary, and assured stability non-existent.

Thus the tensions were clear between the creedal positions of minimum deterrence and the embryonic doctrine of "defence dominance"--the first level of the SDI debate. The newer theory was predicated entirely upon the technical and economic feasibility of completely effective ballistic missile defences. The former argued that defences are

⁵³ Charles L. Glaser, "Why Even Good Defenses May Be Bad," International Security 9:2 (Fall 1984), p. 113.

⁵⁴ Union of Concerned Scientists, Fallacy of Star Wars, ed. John Tirman (New York: Vintage, 1984), sprinkled discussions of countermeasures throughout and determined that: "The array of simple, effective countermeasures the Soviets could employ . . . decisively militates against an effective ballistic missile defence." p. 128. An argument for the indeterminacy of the outcome is found in United States, Congress, Office of Technology Assessment, Ballistic Missile Defense (Washington: Government Printing Office, 1985), pp. 170-78.

⁵⁵ Glaser (note 53), p. 111.

unnecessary and destabilizing, and that the existing offenses were sufficient; if anything, the level of sufficiency had been exceeded long before, and the wisest course was the negotiation of arms-control agreements to reduce arsenal sizes to their historic levels, if not beyond.

At the SDI debate's second level--that of deploying less-effective systems for point defence--the tensions were no less evident. Adherents of minimum deterrence were present here as well, but this alternate forum was equally notable for the divisions that emerged within the war-fighting camp. Differences had existed in the latter group before, of course, principally over the best means for assuring the credibility of a doctrine that threatened both denial and punishment. At the risk of over-simplifying, the intra-fraternity issue was the relevance of ICBM vulnerability, the problem that first led this group to contemplate passive, then active, defences.

As we have seen, a strong argument was mounted in the later 1970s for retaining these weapons, with some pointing to their potential as the most-commandable forces following a Russian counter-force strike. A second argument, not entirely distinct from the first, was that the newer ICBMs held the greatest counter-force potential for the United States and should therefore be retained. This reasoning was carried forward by the more conservative wing of the war-fighting camp.

The pull of this group was felt within a year of the president's speech, when the initial vision of a wide-area (or population) defence system was considerably amended by a report submitted by the administration's advisory committee on the SDI's strategic and political potential. The panel, chaired by Fred Hoffman, recommended that research proceed at first with point defences for missile silos and other military installations, and that the priority given to exploring fully-effective wide-area defences be reduced. It conceded that the probability of a Russian pre-emptive counter-force strike was "a matter for conjecture," but then indicated how such action could be deterred:

In any case, intermediate levels of defense capability might deny them the ability to destroy with high confidence all of their high-priority targets and force them to concentrate their attack upon such targets, diverting weapons that might otherwise be directed against cities.⁵⁶

If the Soviet attack were restricted to only a portion of the silos, or to command mechanisms, or to European arrival sites for conventional reinforcements during a crisis, the panel contended that the value of defences would be even greater: this type of attack would either "be precluded

⁵⁶ United States, Department of Defense, Future Security Strategy Study, Excerpts from the Summary Report, reprinted as Fred S. Hoffman, "Ballistic Missile Defenses and U.S. National Security," in Essays on Strategy and Diplomacy, Vol. 3, The Strategic Defense Initiative (Claremont, Calif.: Keck Center for International Studies, 1985), p. 10. Hereinafter cited as Hoffman Report.

entirely," or it "would require a level of force inconsistent with limiting the level of violence, while depleting the attacker's inventory available for other tasks."⁵⁷

From the standpoint of crisis stability, then, the Hoffman Report's argument was that intermediate defences could extend the lifetime of both land-based weapons and other military targets, including control mechanisms. This probability of greater survivability should reduce whatever pre-emption incentives the Soviets might feel during a period of heightened tensions, thus reinforcing deterrence.

The report also held out the possibility of strategic stability, contending that mixing a "robust" point defence with a counter-force offence would increase America's military strength.⁵⁸ By thus maintaining military parity with the Soviet Union (assuming their own defensive deployments), or achieving a position of superiority (assuming no Soviet defence deployment), arms-control agreements more substantial than SALT might be possible.

The rebuttal offered by the more moderate wing of the war-fighting camp did not entirely deny the value of continuing strategic defence research. However, it was more

⁵⁷ Hoffman Report, p. 11.

⁵⁸ "Robust" defences were those that would be both effective against offensive countermeasures such as penetration aids, and invulnerable to attacks that they might draw upon themselves. The arms control assumptions are spelled out in Hoffman Report, p. 14. Note the divergence from the positions of Weinberger and Keyworth (footnotes 46 and 47).

cautious, an attitude that might have resulted from its approach to the ICBM vulnerability problem. This group conceded that theoretically, at least, the silos were susceptible to attack; yet it also insisted that the attack should not occur, because of the deterrent that would continue to exist within the remaining legs of the triad. Moreover, the triad's modernization had begun to assure the continuation of significant counter-force capabilities in the Trident II SLBM and the cruise, whether air- or sea-launched. As Carnesale and Glaser argued, "The greater diversity will increase the survivability of the total force."⁵⁹ Thus, deployments of anti-missile defences would not contribute greatly to deterrence.

Another approach was offered by a presidential commission whose report on the United States' offensive prospects virtually coincided with Reagan's announcement of the SDI. Aware of the resurgence of BMD advocacy, and attempting to resolve the deceptive-basing issue at last, the Scowcroft Commission offered an interesting alternative: if ICBMs were to be retained because of their relatively better response to command, then the United States could draw down the probability of their being attacked pre-emptively by reducing their "target value." ICBMs were tempting targets,

⁵⁹ Albert Carnesale and Charles L. Glaser, "ICBM Vulnerability: The Cures Are Worse Than the Disease," International Security 7:1 (Summer 1982), pp. 82-83.

not only for their counter-force potential but, more importantly, because they were MIRVed. Thus, de-MIRVing them was a possible remedy that would be more effective than relying on missile defences, even in conjunction with deceptive-basing techniques. Accordingly, the Scowcroft Report recommended that the land-based force evolve gradually into a fleet of small, mobile, single-warhead ICBMs (since dubbed the "Midgetman").⁶⁰

Both the Scowcroft Report and the Carnesale-Glaser critique invoked the prospect of drawing down the size of the counter-force threat through refocusing arms-control efforts. As a hedge against the failure of these efforts, neither entirely dismissed missile defence research. Both held that the research should continue, not for the potential of erecting an American defence, but for the purpose of defeating any Soviet defensive deployments. Whether an American defence would ever be desirable would depend on the evolution of the offensive technologies. Harold Brown, the initial spokesman for the contemporary war-fighting doctrine, contended, "It would depend on how many legs of the triad were prospectively at risk and on the seriousness of the threat to each leg." The greater the Russians' ability to track and destroy submarines, or their ability to deny

⁶⁰ United States, White House, Report of the President's Commission on Strategic Forces (Washington: Government Printing Office, 1983), pp. 15-16. Hereinafter cited as Scowcroft Report.

the threat of bombers and cruise missiles through air defences, the more the United States should have to consider defending its arsenal.⁶¹

The differences between the two wings of the war-fighting camp were few, but significant. A shared theme was the value of a counter-force-capable offence, and there was agreement that research into missile defences could offer the means to ensure the penetration, and thus the deterrent value, of these forces. However, the more moderate wing represented by the Scowcroft Commission, Brown, and Carnesale and Glaser, argued that deterrence results from the existence of the strategic triad taken as a whole, and that deficiencies in one leg were compensated for by the qualities of the others. In contrast, the Hoffman Report, and supporters such as Gray and Payne, sought to preserve the military utility of each element of the triad; they exhibited a tendency to examine each leg in isolation from the others and, finding deficiencies in the silo-based leg, to prescribe a remedial mixture of active and passive defences.

However, strong counter-arguments were advanced against both flanks of the war-fighting group. The advocates of

⁶¹ Harold Brown, "Defensive Systems and the Strategic Debate," Paper presented to the California Seminar on International Security and Foreign Policy, California Institute of Technology, November, 1984. Reprinted in Essays on Strategy and Diplomacy, Vol. 3, The Strategic Defense Initiative (Claremont, Calif.: Keck Center for International Studies, 1985), p. 25.

minimum deterrence argued through the 1970s and 1980s that the war-fighters were adopting a destabilizing posture in their policies for a limited use of the offensive forces, and that the contemplation of even limited defences would further erode the already weak structure of nuclear security.

The idea of effectively managing a limited war drew both technical and political criticism. From a technical standpoint, it was argued that command and control structures were inherently vulnerable to the effects of nuclear weapons: the explosions would severely distort the medium through which electro-magnetic signals (such as radio waves) were propagated; and the blasts can destroy structures such as radars whose nature precluded their being protected.⁶²

From a political standpoint, three arguments were made against the doctrine of flexibility.⁶³ First, reducing the magnitude of punishment below the point of all-out retaliation would only weaken deterrence, much as reduced penal terms may raise the incidence of crime. Second, a Clausewitzian nuclear conflict would become more possible if nuclear weapons were regarded as legitimate means toward

⁶² Desmond Ball, Can Nuclear War Be Controlled?, Adelphi Papers, Vol. 163 (London: International Institute for Strategic Studies, 1981).

⁶³ John Garnett, "Limited War," in Contemporary Strategy: Theories and Policies, ed. John Bayliss, Ken Booth, John Garnett, and Phil Williams (New York: Holmes and Meier, 1975), pp. 117-18; see also Davis (note 19), pp. 9-10.

political objectives. And third, the concept unrealistically required that decision-makers be completely rational during a time of profound stress.⁶⁴

From this perspective, erecting point defences over an already unsafe offence would erode stability. We have already seen the group's predictions for a technologically-driven arms race. In the case of point defences, it contended that their development and deployment would effectively ruin the ABM Treaty.⁶⁵ This was a major consideration for this group because the treaty, as the solitary survivor of the SALT process, was gauged in the 1980s as the basis for the renewal of arms control. Crisis stability was invoked as well in the group's approach to point defences. This concentrated more on the tensions expected to arise during the transitional period: Spurgeon Keeny contended that the role of perceptions would be critically important at this time and that the Russians could face almost-unbearable pressure to strike first if they understood point

⁶⁴ The latter point--rationality--has been one of the principal focal points for the critiques of deterrence theory in general. See Robert Jervis, "Deterrence Theory Revisited," World Politics 31:2 (April 1979), pp. 299-301. For empirical work on rationality in escalating crises, see Richard Smoke, War: Controlling Escalation (Cambridge, Mass.: Harvard University Press, 1977), pp. 296-97.

⁶⁵ Bundy et al., p. 285.

deployments, correctly or not, as a step toward imminent deployment of area defences.⁶⁶

These, then, were the broad tensions within the strategic community--tensions that in some directions were very strong. The greatest tug was felt between proponents of minimum deterrence on the one hand and the defence-domineers on the other. The former's argument invoked claims that security could not rest for long on a nuclear base, that superiority could never be attained, and that political bargaining through arms control was a more sound base for security policy. The latter's argument rejected political bargaining as the principal concern, opting instead for self-generated innovations that, if truly efficient, would allow significant unilateral initiatives along large intervals of the conflict continuum.

In this doctrinal tug, the effect of the introduction of defence advocacy was to exacerbate the tensions. It hardened the resolve of the minimum-deterrence adherents, and the emergence of defence-dominance thinking provided them with an excellent foil against which to score points in favour of stabilizing and reversing the growth of arsenals. Too, the defence-dominant supporters had a foil in Assured Destruction: it provided them with a political argument of

⁶⁶ Spurgeon M. Keeny, Jr., in "Reactions and Perspectives," in Carter and Schwartz, pp. 409-15. See also the argument advanced by Charles Krauthammer, in "The Illusion of Star Wars," New Republic, May 14, 1984, p. 16.

great value in that the ultimate promise of the SDI was to save people, in opposition to a doctrine that apparently threatened to kill them in unprecedented numbers.

Equally as interesting was the split that the SDI aggravated in the war-fighting camp. There was a degree of unity in that SDI research should proceed, but from one wing came pressure for early deployments of point defences, believed useful in themselves, and also as contributions towards the comprehensive defence that the president had prophesied. From the other wing came a rebuttal that defences were not needed at this time, but that the SDI could provide contributions of some utility for the offensive forces.

Evidently, the divisions within and between the strategic fraternities were not likely to be easily reconciled, given the differing assumptions with which each approached the forum. In the interim, policy innovations--such as the president's SDI--were assessed on the basis of prior doctrine.

This doctrinal clash had several consequences. As we are about to see, one of these revolved around the pacing of the development of the SDI's technologies: whether they should be advanced as rapidly as possible toward a near-term deployment of point defences, and whether a longer-term program could and should be sustained. As we saw with respect to general foreign policy in the previous chapter, this was yet another instance in which policy formulation had become

more difficult: discord persisted over both the acquisition of capabilities and over the signal that this would have sent to the Russians; again, none of the sets of grouped beliefs had yet been able to command allegiance to the exclusion of its competitors.

Now it should be clear that this was to be a temporary condition. Every weapons system, indeed every technology, eventually achieves a standard form and standard use. We have described a debate that would affect how the technology will be developed as well as affecting its ostensible and real eventual purposes. The history of technology shows that at the early stage of a major technological development there are almost always quite different views as to how to get the most out of the technology. These differences even tend to cloud the initially clear conception of the technology itself. Yet this is almost always a temporary condition; further development resolves differences as inescapable decisions tend to foreclose alternative development possibilities. Thus as the technology comes to achieve its standard form, there is a concomitant standardization of ideas concerning its best uses. In the case of the SDI, as noted, we could expect these to be articulated in the form of doctrine. And there is a further step to be anticipated from the development of technology since the birth of mass public opinion. As Siegfried Giedion has shown, the technology gives rise to a certain uniformity of mass

perception, which he called--perhaps unfelicitously for our purposes--the "ruling taste."⁶⁷ Meanwhile, it may be useful to look at the technology itself from a political perspective, to see not only what possibility it holds, but also how these possibilities were coming to be foreclosed..

⁶⁷ See Siegfried Giedion, Mechanization Takes Command (New York: Norton, 1948), passim.

Chapter 4

Strategic Defences Assessed

We have seen thus far that a complex debate had sprung up around the Strategic Defence Initiative on strategic doctrinal grounds. One of the consequences of the exercises thus far had been the exclusion of laymen--the debate was not pitched at their level, but at the élite who considered strategic and foreign policy as their domain. This feature occurred as well in another dimension, as attempts were made to assess the feasibility (or infeasibility) of constructing a defensive system with the assurance that it would work as it should. This second aspect, if anything, further reinforced the gulf between experts and laymen. No majority of the latter could be expected, even in a democracy, to assimilate fully the intricacies of the arguments within the scientific and engineering approaches to the SDI.

This chapter briefly reports on the strategic defence research conducted in the years immediately following the initiative's announcement. It is not intended as a comprehensive assessment; the author is not a student of science

but of politics, so thorough evaluations of the claimed technological advances are better made by others. However, some of the political aspects of the SDI are examined here.

Looking at how events transpired since the original formulation of the program's purpose, we can see that the original goal of leading America from the abyss of deterrence was deferred, and that deterrence would remain the master concept of American security policy in the absence of significant comprehensive technological advances. The effort that by 1987 was well-underway to revise the standards against which the new defensive weapons and techniques would be evaluated was illuminating in this regard. Less-exacting criteria came to be promoted, and their acceptance would only further distance the program from its original goal. This feature appeared to be necessary due to the emergence of two constraints faced by the SDI: its funding, and its brushes with the Anti-Ballistic Missile (ABM) Treaty. A brief assessment of the SDI's early experiments suggested that the program was progressing toward a prototype system of ballistic missile defences that would rely on existing technologies--a system that could have been ready for deployment as early as the mid-1990s. After a short lag, the SDI's recently-arrived cousin, the Air Defence Initiative, also appeared headed for deployment. These two programs needed to be looked at together to permit a cogent

assessment of the near-term consequences that these could pose for Canada.

Changing Priorities and Criteria

Plainly stated, those who directed the SDI were hoping to develop a workable ballistic missile defence. In its official form, though, the program was less ambitious. It was usually described as a simple research program into certain technologies; its goal was not the development of defences but rather the provision of information with which future decision makers could judge the feasibility of such developments. However, pronouncements by the Reagan administration, including officials in the Department of Defense, soon signalled that other goals had attained a heightened significance. The administration had begun to affirm that the development of defences and their deployment, initially portrayed as steps subsequent to the research phase, had become goals at least as important as the research itself. Consequently, while the SDI was still being described as a research program as this was written, its thrust could be more accurately described as an attempt to develop systems that could offer limited defences within the next decade.

This revision of the program could be seen both in the discussions of the purpose of strategic defences in general,

and in the nature of criteria that officials had put forward for the evaluation of proposed defensive systems. In the former case, an important shift had been made away from the initial goal of defending populations--a goal that, if met, would have contributed much toward Reagan's 1983 idea of making nuclear weapons "impotent and obsolete." In the latter case, an equally important though somewhat contradictory shift was being attempted; rather than being judged primarily on their cost-effectiveness against specific threats, ballistic missile defences were increasingly coming to be evaluated as desirable per se at virtually any cost.

The first of these revisions began shortly after the president's "Star Wars" speech of March 23, 1983. The administration appointed three committees to investigate present and anticipated technologies and their potential import for American nuclear strategy. Specifically, they were asked, could technology be pushed to the point where "defence by deterrence" could be replaced with "defence by denial?" The response from the Hoffman panel on strategic possibilities was barely encouraging, as we have seen: a thoroughly reliable ballistic missile defence that could protect the entire American population could take several decades to establish. In the interim, however, it might prove possible to defend specific areas--such as military installations--against certain types of attack. Deterrence would remain the basis of strategy but should be

strengthened "by denying the Soviets confidence in their ability to achieve the strategic objectives of their contemplated attacks as they assess a decision to go to war."¹

This emphasis on improving rather than replacing deterrence had been echoed ever since by the program's managers and supporters. Moreover, it had formed part of America's security policy since the promulgation of National Security Decision Directive (NSDD) 172 in 1985:

successful SDI research and development of defense options would not lead to abandonment of deterrence but rather to an enhancement of deterrence and an evolution in the weapons of deterrence through the contribution of defensive systems.²

More bluntly, the Strategic Defense Initiative Organization (SDIO) told Congress that "the U.S. goal has never been to eventually give up the policy of deterrence. With defenses, the U.S. seeks not to replace deterrence but to enhance

¹ United States, Department of Defense, Future Security Strategy Study, Excerpts from the Summary Report, reprinted as Fred S. Hoffman, "Ballistic Missile Defenses and U.S. National Security," in Essays on Strategy and Diplomacy, Vol. 3, The Strategic Defense Initiative (Claremont, Calif.: Keck Center for International Studies, 1985), pp. 8-9. See also Donald F. Haffner, "Assessing the President's Vision: The Fletcher, Miller, and Hoffman Panels," Daedalus 114:3 (Spring 1985), pp. 91-107.

² Quoted in Leslie H. Gelb, "Star Wars Advances: The Plan v. the Reality", New York Times, December 12, 1985, p. A-1.

it."³ Thus the initial concept of "defence by denial" had been deferred, even though the administration claimed periodically that an effective replacement for deterrence remained the ultimate goal.

The second programmatic revision was as important as the first. As the Initiative got underway, the administration established an explicit set of criteria for evaluating defensive weapons systems. As articulated by Paul Nitze in early 1985, the defences would have to be both survivable and cost-effective at the margin.⁴ Survivability was understood to mean that the defences, especially when based in space, could not be negated or destroyed by an opponent. Cost-efficiency was analogous to the economic concept of marginal cost: it would measure the outcome of weapons development competition between one's own defences and the opponent's offences, with efficiency said to exist if the cost of additional defences was less than the cost of offensive proliferation. (These criteria were the same as those for the previous experiment with ballistic missile defences; when applied to the Safeguard system in the mid-1970s, the

³ United States, Dept. of Defense, Strategic Defense Initiative Organization, Report to Congress, 1985 (Washington: Government Printing Office, 1985), p. 9.

⁴ The criteria were set out in February 1985, in Nitze's speech to the World Affairs Council of Philadelphia. See Nitze, "On the Road to a More Stable Peace," The Strategic Defense Debate: Can "Star Wars" Make Us Safe?, ed. Craig Snyder (Philadelphia: University of Pennsylvania Press, 1986), pp. 221-27.

defences failed the test and were dismantled.) Since Nitze's speech, however, less-demanding criteria were advanced by the Department of Defense: Secretary Weinberger and SDIO officials contended that technical feasibility and affordability were the crucial yardsticks; if defensive systems could be made to save American lives, then fiscal considerations were secondary.⁵

The question of which criteria to apply was unresolved as the Reagan administration approached its final months of office. The foreign policy bureaucracy remained divided, with Nitze's arguments swaying the Department of State, and Weinberger's rebuttal carrying the Department of Defense.⁶ Resolution by higher authority had not proved possible. The case apparently went to the National Security Council in February, 1987. According to the Washington Times, which claimed to have obtained the meeting's minutes, Reagan could not decide clearly between the more stringent criteria and early deployment urged upon him by Secretary of State Shultz and the Chairman of the Joint Chiefs of Staff, Admiral Crowe; and the easier test advocated by his secretary of

⁵ As Weinberger told the Senate Foreign Relations Committee in late 1985, "I would think that the additional cost in protecting people's lives, in protecting this nation, would be far worth anything that it would cost." Quoted in Gelb, p. A-1.

⁶ Michael R. Gordon, "A Bureaucrat's War on 'Star Wars'", New York Times, May 14, 1986, p. B-12.

defense. The minutes were said to indicate that Reagan was leaning closer to Weinberger's views than to Shultz's.⁷

Pressures and Constraints

Both revisions were symptoms of a growing sense of urgency that underlay the Initiative. The program's proponents said repeatedly that they would need a decision in the early 1990s on whether (and on how) to configure a defensive system. They also insisted that they would need a great deal of money to generate the information (or to develop prototype systems) upon which to base the decision. Budget requests grew steadily (see Table I, p. 126) and swiftly formed the largest component of the defence research budget; they were coming to crowd out expenditures in other important areas such as operational readiness and maintenance.⁸ Additionally, Weinberger's Defense Guidance of 1986 gave the program the highest priority in long-range budgeting; it was deemed as important as had been the strategic modernization

⁷ Gregory A. Fossedal, "NSC Minutes Show President Leaning to SDI Deployment", Washington Times, February 6, 1987, p. 1.

⁸ Stephen Alexis Cain and Gordon Adams, "Reagan's 1988 Military Budget," Bulletin of the Atomic Scientists 43:3 (March 1987), pp. 50-52.

program (MX missile, B-1 bomber) in the administration's first term.⁹

Officially, this urgency derived from alleged advances in the Soviet research and development program. Periodically, administration spokesmen estimated that a Soviet deployment might occur within a few years. In early 1987, Weinberger had presented the argument thus:

In some areas, the Soviets have progressed well beyond the research stage. They already have ground-based lasers that could interfere with our satellites; they could have a prototype space-based anti-satellite laser, which could be available by the end of the decade; and we expect them to test ground-based lasers for defense against ballistic missiles in the next three years. They also could begin testing components for large scale deployment of a laser ABM system in the early 1990s.¹⁰

The Soviet Union may indeed have been making such progress, but it was also possible that the urgency of the American program actually derived more from sources closer to home. President Reagan could not remain in office beyond January,

⁹ Bill Keller, "Missile Shield Program gets Pentagon's Highest Priority," New York Times, January 29, 1986, p. A-11.

¹⁰ Weinberger, Remarks of the Secretary of Defense to the National Space Foundation, Colorado Springs, Jan. 22, 1987, mimeo., (Ottawa: U.S. Embassy, 1987).

1989; his successor may not be as supportive of the SDI.¹¹ It seemed not entirely unreasonable to suggest that the program's managers saw this date as their deadline and were hoping to impart enough momentum to carry the SDI beyond the end of the Reagan presidency. The creation of such a momentum can be quite valuable, as has been demonstrated with previous weapons acquisition programs.¹²

Whether this creation of momentum was purposeful, or whether the SDI's overseers were guided by other precepts, the program had begun to encounter restraining forces. Two of these--its budget, and its compliance with the 1972 ABM Treaty--were political, for they were related to the primary

¹¹ Among the field of declared and potential candidates for the 1988 election, positions on the SDI varied widely; support for continuing the program came only from conservatives. Among Democrats, Sen. Sam Nunn was a supporter of SDI research, although he appeared hesitant about prospective deployments; among Republicans, Sen. Jack Kemp was the program's most ardent advocate, vowing that "There won't be anybody to my right on the SDI. . . ." Vice President Bush had expressed support; cynics contended that his position was meant to display loyalty to the administration. For a survey of the field, see William Schneider, "The Republicans in '88," The Atlantic, July 1987, pp. 58-82; see also "The Democrats in '88," The Atlantic, April 1987, pp. 37-59.

¹² One such precedent was the decision in the early 1970s to proliferate the number of warheads carried on American missiles. Ted Greenwood has contended that the bureaucratic momentum the armed services created for "MIRVing" missiles--equipping them with Multiple Independently-retargetable Re-entry Vehicles--proved unstoppable once the program reached Congress. See his Making the MIRV: A Study of Defense Decision Making (Cambridge, Mass.: Ballinger, 1975).

instruments that Congress was using to rein in the BMD enthusiasts.

The issue of funding had already provoked clashes with Congress. The administration had consistently sought large increases for the SDI, as indicated in Table I (p. 126). These requests reflected the spirit of the Fletcher study group, which reported to the President in late 1983 that BMD research should be constrained only by technology and not by funding.¹³ Yet the administration's requests were consistently trimmed by Congress; the SDI budget grew, but by much less than the administration desired. There were several reasons for this. Congress, in the mid-1980s, had become more assertive over defence programs and budgets than at any other time since World War II.¹⁴ Also, defence expenditures were squeezed to some extent by the deficit-reducing provisions of the Gramm-Rudman-Hollings Act.

In dealing with the SDI itself, Congress displayed some skepticism. In budgeting for fiscal 1987, for example, legislators slashed the administration's funding request by almost two billion dollars, awarding \$3.5 billion to the program. On the eve of fiscal 1988, it appeared unlikely that

¹³ Haffner, pp. 91-107.

¹⁴ Indicators of this assertiveness included decisions to cancel plans to resume nerve gas production, to forbid military aid to the administration-supported Nicaraguan rebels, to declare a unilateral--if temporary--moratorium for anti-satellite weapons tests, and to delay funds for the MX missile.

TABLE I
STRATEGIC DEFENCE INITIATIVE
RESEARCH AND DEVELOPMENT EXPENDITURES,
FISCAL YEARS 1985-89 (in millions of \$US):

	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY *</u> <u>1988</u>	<u>FY *</u> <u>1989</u>
Surveillance, acquisition, tracking and kill assessment:	546	847	911	1493	1860
Directed energy weapons:	376	803	844	1103	1246
Kinetic energy weapons:	256	595	730	1075	1200
System concepts, battle management:	99	212	387	627	786
Survivability, lethality, and key technologies:	<u>112</u>	<u>217</u>	<u>338</u>	<u>900</u>	<u>1162</u>
TOTAL R & D:	1389	2675	3229	5220	6282
Military construction:	0	3	10	125	18
Dept. of Energy SDI program:	<u>210</u>	<u>285</u>	<u>514</u>	<u>569</u>	<u>390</u>
TOTAL SDI PROGRAM:	1599	2963	3753	5915	6690

*proposed expenditures

SOURCES: Adapted from Aviation Week and Space Technology, March 2, 1987, pp. 18-19; and United States, Dept. of Defense, Strategic Defense Initiative Organization, Report to Congress, 1985 (Washington: Government Printing Office, 1985), p. 78.

the administration would receive the full \$5.9 billion it sought. Congress had also begun demanding to see what it was buying; in 1986, it ordered the SDIO to make a comprehensive report on the technical feasibility and all anticipated costs of every one of its projects.¹⁵

Early in 1986, a well-researched staff report set out several arguments that appeared to guide many of the SDI's congressional opponents. "Contrary to recent press reports," it said, "there have been no incredible breakthroughs in SDI research. . . .". The report criticized the 1990s deadline as artificial and as unlikely to permit a rational assessment of America's defensive possibilities: "by rushing toward early technology demonstration projects SDI officials may well end up with a number of premature choices and Congress may well end up wasting a lot of tax dollars."¹⁶ The report recommended that instead of financing these projects, Congress should ensure that budget allocations be spent on basic research and that development and deployment decisions be deferred for several years at least. The Democrats soon adopted this as their policy guidance; some of them began

¹⁵ "Congress Cuts Funds, Seeks Control Over SDI," Aviation Week and Space Technology, October 27, 1986, p. 15.

¹⁶ Douglas Waller, James Bruce, and Douglas Cook, SDI--Progress and Challenges: Staff Report Submitted to Sen. William Proxmire, Sen. J. Bennett Johnston and Sen. Lawton Chiles (Mimeo., March 17, 1986), pp. 48 et passim.

trying to work it into the party's platform for the 1988 election.¹⁷

Just as Congress appeared in 1987 more determined to restrain the program's budget, so it appeared increasingly firm in demanding that the program comply with the ABM Treaty. The 1972 agreement with the Soviet Union prohibited most of the tests that the SDI would require, even though it permitted laboratory-based development. Since mid-1985, the administration had floated the trial balloon of a "re-interpretation" of the treaty under which several SDI field tests could appear legal. This maneuver opened a second front, with Congress beginning to insist upon strict compliance with the treaty. In February, 1987, Senate Armed Services Committee chairman Sam Nunn warned the administration that the adoption of a "broad" treaty interpretation would mean "the end of arms control" and the beginning of "a Constitutional confrontation of profound dimensions."¹⁸ Nunn and his supporters were seemingly prepared to use the treaty as an instrument to push the SDI back into basic research, away from the development and deployment envisaged by ardent SDI supporters.

¹⁷ "Democrats Propose Defense Policy," Aviation Week and Space Technology, October 6, 1986, pp. 70-71.

¹⁸ Paul Mann, "Arms Control Protests Force Delay in Next Stage of SDI Research," Aviation Week and Space Technology, February 17, 1987, pp. 16-17.

Evolution of Missile Defence Projects

Beyond the pressures and constraints that the SDI encountered lay the technologies its proponents hoped to adapt for ballistic missile defence. Research proceeded at several centres across the United States, and some was conducted abroad.¹⁹ The preliminary verdict from the testing grounds and laboratories was that a prototype system of defences that relied on kinetic instead of directed energy might be deployable within a few years.

The validity of the claims was difficult to establish independently, for two reasons. The first was that those who designed, built, and tested BMD components, as well as their overseers, had reason to overstate their progress. "Nothing succeeds like success," says the cliché, and in the case of externally funded research, nothing succeeds like the image of success. Thus some skepticism is warranted in evaluating test results that were claimed to demonstrate the feasibility of various BMD projects. Caution was further warranted by the apparent existence of a dis-information program that was said to cover several defence projects, including the SDI. The program may have been established as early as 1984, ostensibly to confound Soviet intelligence

¹⁹ Relatively minor contracts had been awarded to researchers in the United Kingdom, West Germany, and Israel.

analysts and scientists, and perhaps even to confuse the SDI's critics.²⁰

Bearing these caveats in mind, it appeared a safe conclusion that a prototype system of missile defences would rely on kinetic-energy weapons rather than on the "exotic" technologies--lasers, particle beams, and others--of directed energy. In mid-1987, none of these advanced projects was anywhere near producing a battle-calibre weapon.

In order to be effective weapons, lasers would have to deliver a large quantity of energy in a tightly-focused beam across a great distance. The problem of focusing a beam that is distorted by the atmosphere had been said by critics to be next to impossible. However, tests carried out in the summer of 1985 indicated that focusing could be less of a challenge than had previously been estimated. A laser fired from Maui, Hawaii, was successfully refocused using corrections beamed down from the space shuttle, some 240 kilometers overhead. Although the beam had neither the coherence nor the power required of a weapon, the principles involved in correcting atmospheric distortion apparently came to be better understood, and ground-based lasers came to be viewed as more possible than previously.²¹

²⁰ David M. North, "U.S. Using Disinformation Policy to Impede Technical Data Flow," Aviation Week and Space Technology, March 17, 1986, pp. 16-17.

²¹ William J. Broad, "Laser Beam Hits 8-Inch Target in Space," New York Times, June 22, 1985, p. A-11.

More problematic was the amount of power required for a weapons-grade beam. The precise requirements depend largely on the laser's operating conditions, increasing with the distance to the target and with the time required to deposit at least 200 megajoules-per-square-meter on the target's surface. Lasers rated at 100 megawatts and above could be required.²² Thus far a power output of 2.2 megawatts had been claimed for the Mid-Infra-Red Advanced Chemical Laser (MIRACL) device at White Sands, New Mexico; the Lawrence Livermore laboratory was reported to have coaxed 100 megawatts from a free-electron laser in a pulse lasting all of 15 billionths of a second.²³ Greater power levels were believed possible if an X-ray laser were used but its fuel

²² The Fletcher study group's requirements are further explored in Union of Concerned Scientists, The Fallacy of Star Wars, ed. by John Tirman (New York: Vintage, 1984), pp. 99-102; see also Stephen Weiner, "Systems and Technologies," in Ballistic Missile Defense, ed. Ashton B. Carter and David N. Schwartz (Washington: Brookings, 1984), pp. 94-95.

²³ These results were reported to the North Atlantic Assembly in Brussels in May, 1986. See Michael Feazel, "U.S. Researchers Mark Progress in Laser, Rail Gun Programs," Aviation Week and Space Technology, June 2, 1986, pp. 68-69; and Phillip M. Boffey, "Research Success Marks Recent Days for 'Star Wars'," New York Times, June 18, 1985, p. C-1.

source--a nuclear explosion--greatly reduced its attractiveness for the SDI.²⁴

Similarly, the power requirements had virtually eliminated particle beams from consideration as weapons. Under contemporary conditions, they required accelerators whose size and mass presented formidable launch requirements. The SDIO was apparently coming to be unwilling to bear the sums involved. It had, however, shown interest in applying this technology to distinguish warheads from penetration aids (decoys, chaff, aerosols, and so on), an application that should require barely one-tenth as much power as would a weapon, and which might be affordable enough to launch. The SDIO included this application among its "proof-of-feasibility" experiments, and contracted McDonnell Douglas and Lockheed to provide designs; one of these firms was to be selected by the end of 1987 to build, test and evaluate a prototype.²⁵

²⁴ Pentagon officials were reported dubious about the political ramifications of stationing nuclear-powered lasers in orbit, and about the feasibility of "popping up" the devices from earth during a missile attack. Also, they were apprehensive about the potential damage to other space-based components that could result from nuclear explosions. See William J. Broad, "Reagan's Star Wars Bid: Many Ideas Converging," New York Times, March 4, 1985, p. I-1.

²⁵ United States, Dept. of Defense, Strategic Defense Initiative Organization, Report to Congress, 1986 (Washington: Government Printing Office, 1986), p. II-6; "SDIO Lets Beam Weapon Contracts," Flight International, October 18, 1986), p. 14.

While the SDIO was still attempting to prove the feasibility of directed energy weapons, it was moving ahead with kinetic alternatives and had begun touting them as candidates for deployment. Three projects in particular were said to be relatively far advanced: two "traditional" interceptor rockets patterned after the Spartan and Sprint of the old Safeguard system, and an interceptor missile that could be stationed aboard an orbiting platform.

Both the SDIO and the aerospace industry brimmed with confidence about the High Endoatmospheric Defense Interceptor (HEDI) and its cousin, the Exoatmospheric Re-entry-vehicle Interceptor System (ERIS). The latter was a lighter and cheaper version of the rocket used in the first SDI test--the Homing Overlay Experiment--in June, 1984. Lockheed was awarded a \$467 million contract to prepare ERIS for flight testing that was expected to begin around 1990. McDonnell Douglas's HEDI appeared headed for full-scale development by the end of 1987, with flight testing tentatively scheduled for 1989.²⁶ Both rockets were to carry their own homing devices instead of relying on external guidance; interceptions were to be effected with devices that would snare a re-entry vehicle and smash the interceptor into it.

²⁶ "Missile Contract is Awarded," New York Times, January 25, 1986, p. A-34; Brian M. Greeley, Jr., "SDIO Continues Research Across Broad Technology Base," Aviation Week and Space Technology, March 9, 1987, pp. 38-43.

The SDIO described both interceptors as among its most advanced projects and had begun preparations for "demonstration-of-capability" tests to support a deployment decision; however, company spokesmen were slightly more restrained, with Lockheed telling Congress in 1987 that ERIS could be deployed "within a few years" and McDonnell Douglas fixing 1994 as the earliest deployment date for HEDI.²⁷

Yet another "traditional" interceptor was being developed: the Flexible Agile Guided Experiment (FLAGE) ~~was~~ tested twice in 1986 in experiments that stressed the weapon's sensors and guidance system. Although this weapon was considered more appropriate as an Anti-Tactical Ballistic Missile (for conventional instead of strategic nuclear interceptions), Defense officials indicated that its sensors and guidance systems might be transferred to HEDI to shorten that project's development period.²⁸

In addition to these weapons that could be used for late-mid-course and re-entry phase interceptions, the SDIO was considering a kinetic system that could be used in boost-phase defence. The design of this system was quite tentative, for until late 1986 it was not at all clear

²⁷ United States, Dept. of Defense, Strategic Defense Initiative Organization, Report, 1986, p. II-5; "Industry Officials Optimistic About Early SDI Deployment," Aviation Week and Space Technology, March 23, 1987, p. 30.

²⁸ Canadian Centre for Arms Control and Disarmament, Arms Control Chronicle, 11-12 (November 1985 - January 1986), p. 35.

whether "eyes" could be developed for a kinetic system based in space. This problem was thought far more difficult for kinetic than for directed-energy weapons because of the observation angles involved. Because of the far greater speed of the directed energy systems, they would not have to be almost directly over a target, unlike the slower kinetic weapons; their sensors could thus look "sideways" to acquire targets rising above the horizon, while kinetic-system sensors would have to look down against the radiation of the earth itself.²⁹ However, the SDIO claimed that it was able to detect, track and destroy an ICBM in a boost-phase simulation in September, 1986; the mission used a combination of infra-red and laser radar (LADAR) sensors.³⁰

Encouraged by the sensor tests, SDIO officials had begun discussing system requirements. One plan that was leaked in early 1987 would have involved placing up to 10,000 interceptor rockets aboard some 400 orbiting platforms, poised to attempt the interception of rocket boosters before they could reach the point of releasing warheads. The technologies for this were fairly well understood; the primary

²⁹ See United States, Congress, Office of Technology Assessment, Ballistic Missile Defense (Washington: Government Printing Office, 1985), pp. 159-61.

³⁰ Craig Covault, "SDI Delta Experiment to Aid Kinetic Kill Vehicle Design," Aviation Week and Space Technology, September 15, 1986, pp. 18-19; "Textbook Success for SDI Experiment," Flight International, September 20, 1986, p. 13.

constraint appeared to be the mass of the interceptors and the correspondingly prohibitive costs of placing them in orbit. An exuberant SDIO official claimed that if the interceptor's mass could be halved, the system would meet even the Nitze criterion of cost-efficacy: "there is no way [the Soviets] can build boosters . . . cheaper than our interceptors."³¹ Certainly, though, many more tests would be required to support this claim.

A Prototype System for the 1990s?

By mid-1987, it was too early to describe any configuration of the various weapons projects as a potential ballistic missile defence system, for so few of the projects had been proved feasible. However, if one were convinced of the need to develop a layered defence for deployment within the next few years, as the proponents of BMD appeared to be, then one could foresee a system being pieced together from the projects described in the previous section.

Evidently, the earlier the system was required, the more it would have to rely on kinetic-energy weapons. At a minimum, a sort of "Safeguard Plus" could be proposed that would incorporate derivatives of the Safeguard concepts--

³¹ "SDIO on Verge of Producing Kinetic Kill Vehicle," Aviation Week and Space Technology, February 9, 1987, p. 24.

HEDI and ERIS--and a fleet of platforms bristling with small rockets as an orbiting overlay. Sensors would be required beyond those already carried by the interceptors; this was particularly the case for the mid-course phase in which warheads that had penetrated the boost-phase interceptors would have to be distinguished from their accompanying penetration aids.

BMD advocates, including SDIO officials, had already begun proposing similar systems. As described above, the SDIO issued development contracts for both of the ground-based interceptors and for a particle-beam mid-course discrimination system.³² It had also set out schedules for testing the discrimination system both on the ground and in space; these tests were expected to conclude by the end of the decade. As well, the SDIO began a significant investment in space-based kinetic weapons, according to a General Accounting Office audit of the SDI's fiscal reprogramming.³³

Thus, at least in kinetic weapons, the SDIO could claim to be making some progress toward its official goal of

³² Discrimination need not rely exclusively on this technology; the SDIO has told Congress that any of the lasers should be applicable here as well. See Waller, Bruce and Cook, p. 45.

³³ This classified audit on diversion of appropriated funds from their intended purposes was submitted to a Senate committee in January, 1987. See Paul Mann, "Congress Balks at Proposal to Speed Space-Based Anti-Missile Defense," Aviation Week and Space Technology, January 26, 1987, pp. 22-24.

providing decision makers with adequate information by the early 1990s to judge the feasibility of missile defences. If the SDIO's enthusiasm were borne out by advances in the weapons described above, the United States could within years be offered more than this type of information--it could also be presented with a choice of whether to go ahead with developing and deploying a layered defence.

Air Defence Initiative

While developing weapons to be used against ballistic missiles was the most visible aspect of strategic defences, the parallel program of developing new air defences was also significant.

The Air Defence Initiative (ADI) was the result of several years of reflection upon the value of aerial defences in the age of nuclear missiles. This process began in 1979, as part of the strategic modernization program begun by the Carter administration.³⁴ With the advent of the SDI, aerial defences attained an importance they had not had in some 15 years. Once the technology underlying deterrence permitted the dominance of missile-based threats, the significance of bombers declined greatly. With the SDI's ultimate promise

³⁴ The process is traced in greater depth in the following chapter.

of negating the missile threat from ballistic missiles, there was a strong potential that nuclear deterrence could make a technological transition back to airborne threats. Bombers could gain a new significance, but the more likely development appeared to be a great expansion of cruise missile fleets, for reasons that were addressed in the previous chapter.

The ADI took shape sometime after the SDI was launched, and attempted to pace its more-glamorous cousin. An inter-agency steering group was operating in the Pentagon by early 1986. Its chairman, Brigadier-General Robert Rankine, indicated that the ADI was developing in conjunction with the SDI so that decisions on deploying both types of defence could be made at the same time in the early 1990s.³⁵ Moreover, the concepts bore some resemblance to the "defence-in-depth" that underpinned the SDI. Lawrence Walsh, a Deputy Undersecretary of Defense, had described a system of layered interceptors in rough terms: a hyper-velocity, surface-to-air missile to operate at long ranges (up to 3,000 kilometers), and a second layer of tactical fighters that would be more advanced than the F-4s, F-16s, and F-18s already in use for North American defence. Surveillance could rely upon new phased-array radars, mounted either on board a

³⁵ Cited in John D. Morrocco, "Push for Early SDI Deployment Could Spur Air Defense Initiative," Aviation Week and Space Technology, February 2, 1987, pp. 18-19.

TABLE II
AIR DEFENCE INITIATIVE
RESEARCH AND DEVELOPMENT EXPENDITURES,
FISCAL YEARS 1988-89 (in millions of \$US):

	<u>FY 1988</u>	<u>FY 1989*</u>
Air surveillance:	94.4	140.5
Undersea surveillance:	47.2	67.4
Battle management; command, control, and communications systems:	18.1	37.3
Engagement systems:	<u>13.2</u>	<u>35.0</u>
TOTAL ADI PROGRAM:	172.9	280.2

*proposed expenditures

SOURCE: "Defense Dept. Official Cites Need for Early Decision on Space-Based Radars as Part of ADI Surveillance Network," Aviation Week and Space Technology, April 13, 1987, pp. 25-26.

successor to the present Boeing E-3 Airborne Warning and Control System (AWACS) aircraft, or carried by a new generation of dirigibles.³⁶ Preliminary budget requests approached \$500 million for fiscal years 1988-89 (see Table II, p. 140), with the U.S. Air Force preparing to begin contracting by the end of 1987 for surveillance aircraft, overall system concepts, and a battle-management "architecture."

The amount of money being expended virtually assured that there would be a deployment of some configuration of strategic and air defence systems in the near future. One could expect this to give a fairly considerable boost to American hegemonic morale. Deployment of such systems could not per se restore America's hegemonic position, but the pursuit of these systems would ensure U.S. technological military superiority over any conceivable enemy over at least the short term. Indeed, the U.S. military buildup had already reached historically significant proportions, surpassing that of the late nineteenth century which heralded America's rise to great-power status.

In historical perspective, the United States has maintained its technological edge by means of military research, development and deployment. Those who have looked for direct spinoffs such as Teflon and found a disappointing payoff

³⁶ Cited in "Defense Dept. Official Cites Need for Early Decision on Space-Based Radars as Part of ADI Surveillance Network," Aviation Week and Space Technology, April 13, 1987, p. 13.

in terms of commercial products have missed the point that the overall "research machine" that propelled that nation into a hegemonic position depends on high levels of military research spending. These high levels were being superbly sustained in the 1980s despite congressional resistance, and the momentum of that research machine was in fact reaching levels and a tempo quite unprecedented in peacetime.

There was another side to the SDI that has received scant comment in this exploration of the research and development effort. Quite possibly the major consequence of the SDI was the implicit decision to force development of artificial intelligence, the art of codifying how to do things according to best practice. A massive development of artificial intelligence could very greatly help to restore American hegemony, especially in the economic realm, for it would almost automatically establish literally thousands of American-imposed régimes in all walks of life, including international relations, penetrating and Americanizing foreign cultures to their deepest roots. The search for means to develop essentially error-free complex systems that the SDI represented was an equally important development. The transferability of this approach would be immense, and as technologically infused complexity increased, it could turn out to be the only approach that would reliably work. Reliability and sufficiency in meeting a Soviet attack were of course separate issues.

If England did indeed put a new lease on the life of its hegemony, as Modelski has argued, it did so by revolutionizing its mode of production. Artificial intelligence and designedly error-free complex systems promised to do this once again, to turn American know-how into a far more widely saleable commodity, and to generate information dependence much like the traditional arms dependence of client states. In any case, the technology upon which SDI was based warranted further examination, for the initiative itself had been conceived as a possible means of substituting technology in large part to take the place of national political consensus and mass political will.

To a large extent hegemony depends on the continual demonstration of technological, economic, and organizational supremacy. To carry off the hegemonic act requires high drama, and there was little evidence that in this respect the Americans were losing their flair. For largely internal political reasons, they were seeking greater capabilities for autonomous action in world affairs, and by all accounts they were beginning to achieve this goal. The flowering of hegemonic theory appeared to be part of this overall catharsis through which Americans would put the post-war world and the Vietnam debacle behind them. In the contemporary ritual of commemorative anniversaries they were putting copies of the Constitution into their breakfast cereal boxes, and their mass media abounded with patriotic themes. The

groping effort to regain lost hegemonic bearings was widely evident, and the SDI was one concrete manifestation of this overall effort. Hegemonic theory represented a loss of naive self-deception as to America's role in world affairs; the SDI represented an internal renewal of the hegemonic mandate, and its consequences would before long be felt abroad.

It is not our purpose to determine how, when, or whether American hegemonic decline would be arrested, or even indeed whether it existed in the first place. We have been searching for some clues as to how Canada could expect to be affected by developments that, however real they may be for Americans, would affect the Canadian reality from the outside, in--from pressures exerted upon Canada by the Americans seeking to unfold what they considered to be their destiny. It remains to examine how well prepared Canadians were for what may be expected to occur, once SDI technologies advanced sufficiently toward their standard forms that deployment decisions come to be demanded. To this we are now about to turn.

Chapter 5

Implications for Canada

Let us refresh ourselves on the wide-ranging propositions advanced earlier about the relationship that existed between the United States and Canada. In general terms, three consequences have been advanced for any revisions in American defence policy: Canadian security, sovereignty, and economic conditions may each be affected. The changes may pose benefits ~~or~~ costs in each, or a combination, of these areas and tradeoffs could exist. The problem facing Canadian policy makers, we recall, is the management of these consequences in a way that is consistent with Canada's objectives--subject, of course, to definition by the "coalition of coalitions" that constitutes the government.¹

We have seen that a revised American defence policy may, first, affect Canadian security, primarily through altering the probability of war with the Soviet Union. For

¹ This conception of the state was described in Chapter 1; see also Robert Gilpin, War and Change in International Politics (New York: Cambridge University Press, 1981), p. 19.

geographical reasons, Canadian security is inextricably intertwined with strategic stability. Should this stability be seriously degraded, then Canada would face a greater threat because of its physical presence between the super-powers and because of its alliance with the United States. In this context, American policy changes that harm the stability of the American-Soviet relationship must also harm Canadian security. Canada's appropriate response, then, should be to oppose those changes that are destabilizing and, conversely, to support those that are stabilizing.

We also recall that the changes could affect our sovereignty, principally by raising or reducing the prospects of an American military presence. Should the value of Canadian territory increase in response to changes in American defence strategy, then the prospects are greater that the United States would want to exert strategic control of the territory. Canada, like any nation-state, should want to protect its sovereignty, knowing, though, that a tradeoff may exist if changes that promote sovereignty detract from security.

We are further reminded that changes in American defence policy can affect the Canadian economy through requiring greater or lesser military expenditure, creating demand shifts for Canada's defence industry and possibly shifting the demand for Canadian technological expertise. However, here too, tradeoffs may exist. Policy makers may face a

choice between security and economic conditions.² They may also confront a choice between economic conditions and sovereignty if the promotion of one detracts from the other.

Current Canadian Strategic Defence Contributions:

In 1987, Canada was still contributing to the strategic defence of North America, as it had for thirty years previously, through the North American Aerospace Defence Command (NORAD). This bilateral institution was one of the results of the Canadian government's pre-World War II decision to collaborate in the defence of the United States.³ NORAD's contemporary mission was to monitor the atmospheric and orbital approaches to North America and to provide a warning of a nuclear attack. Canada's NORAD contributions were modest: radars, a small number of interceptor aircraft, and

² This is but a restatement of the familiar "guns v. butter" debate. The issue is not re-opened in any depth within this chapter.

³ As MacKenzie King promised Franklin Roosevelt at Kingston in 1938, "We, too, have our obligations as a good friendly neighbour, and one of these is to see that, at our own instance, our country is made as immune from attack or possible invasion as we can reasonably be expected to make it, and that, should the occasion ever arise, enemy forces should not be able to pursue their way either by land, sea, or air, to the United States across Canadian territory." Quoted in James Eayres, In Defence of Canada: Appeasement and Rearmament (Toronto: University of Toronto Press, 1965), pp. 183-84.

personnel at NORAD command posts in Colorado's Cheyenne Mountain and North Bay, Ontario.⁴

Although the NORAD contribution reflected the Canadian government's support for a policy of deterrence, it did not necessarily indicate support--as its critics claimed--for the more ambitious of the American nuclear strategies. As we have seen, strategies that reach beyond deterrence-by-retaliation to include concepts of "war-fighting" place a far greater emphasis on active defences than was accorded to the NORAD of the 1980s, which was primarily a passive defence system. Even with the modernization that was underway in the late 1980s, no war-fighting role could be discerned in NORAD's posture.

This was not always the case. When it was established, NORAD was almost certainly intended to support a war-fighting strategy. Not only did NORAD have the capabilities to close off the approaches to North America that would have

⁴ Additionally, a few Canadians were still present at the Over-the-Horizon Backscatter (OTH-B) radar stations in the continental United States, and on board the Airborne Warning And Control System (AWACS) aircraft.

been used by Soviet bombers,⁵ it also operated under a strategic doctrine that placed a deep emphasis on blunting the size of a Soviet attack and on limiting the damage that surviving Soviet forces could inflict.⁶ However, as missiles came to replace bombers as the favoured strategic weapon, air defences atrophied; and as no missile defences had yet proved effective, NORAD's mission was reduced to the relatively simple early warning function.

If the war-fighting mission were re-assigned to NORAD, then several changes would be required in the assets at that command's disposal. In the first place, far more aircraft

⁵ At its war-fighting zenith, NORAD's assets included approximately 480 radar units strung in three lines across Canadian territory and extended offshore by the U.S. Navy and Air Force, almost 600 Nike and Bomarc nuclear-tipped surface-to-air missiles, some 2,000 nuclear-armed interceptor aircraft and an augmentation force of almost 4,000 airplanes. See Canada, Parliament, Senate, Special Committee on National Defence, Canada's Territorial Air Defence (Ottawa: Min. of Supply and Services, 1985), p. 5. [Hereinafter cited as the Lafond Report.]

⁶ David Cox, Canada and NORAD, 1958-1978: A Cautionary Retrospective, Aurora Papers, Vol. 1 (Ottawa: Canadian Centre for Arms Control and Disarmament, 1985), pp. 9-13. See also Cox's testimony in Canada, Parliament, Senate, Special Committee on National Defence, Minutes of Proceedings and Evidence, 32nd. Parl., 2nd Sess. (1983-1984), Vol. 3, pp. 20-21. [Hereinafter referred to as the Lafond Proceedings.]

would be required than those already assigned or available.⁷ Also, NORAD would have to be re-equipped so that operations could continue in a nuclear environment. For example, a radar meant to detect and track Soviet bombers and cruise missiles remained profoundly susceptible to counter-measures. It could be "blinded" temporarily by a nuclear explosion's electro-magnetic pulse and it could be "muted" should the pulse disrupt the radar's satellite communication link with its command and control centre. More seriously, both the radar and the distant centre could be preemptively destroyed. Conceivably, these facilities could be replaced in real time by Airborne Warning And Control System (AWACS) aircraft but, as with the interceptors that these airborne command posts would control, too few were available to sustain allegations that NORAD was playing a war-fighting role.

Whether the modernization that began in 1986 would lead NORAD to a more ambitious role seemed doubtful. The Air Defence Modernization Program entailed a significant

⁷ As of 1985, NORAD could count upon the immediate availability of one squadron of CF-18s, four squadrons of F-15s from the United States Air Force, 11 squadrons of F-106s and F-4s from the United States Air National Guard, and eight AWACs. A second CF-18 squadron was planned. Air National Guard planes were to be gradually replaced by F-15s and F-16s; the Pentagon has scaled back this plan, citing budgetary pressures. See Canada, Parliament, House of Commons, Standing Committee on External Affairs and National Defence, Minutes of Proceedings and Evidence, 33rd Parl., 1st Sess. (1984-1986), Vol. 57, p. 26 [Hereinafter referred to as SCEAND]; and United States, Department of Defense, Secretary of the Air Force, Posture Statement, Fiscal Year 1986 (Washington: Government Printing Office, 1985), p. 30.

investment in passive defences. The overhaul resulted from a joint investigation by the Canadian and American military that concluded that the Distant Early Warning (DEW) Line, although periodically improved with modern technology, had several deficiencies.⁸ The most notable of these included a pair of blind spots--unguarded air corridors that extended through Canada from the Labrador and B.C. coastlines almost to the northernmost American ICBM fields. In addition to the radar gaps, none of the DEW Line radars could track aircraft flying at low altitudes, and tracking capability south of the DEW Line disappeared with the shutdown of the obsolete Pinetree Line along the 50th parallel. Thus, according to the military, Soviet planners would be more tempted to exploit these deficiencies, perhaps designing a surprise strike that would rely on low-flying bombers and ground-hugging cruise missiles.

Working from the premise that a more-capable detection system could deter such an attack, the United States and Canada began erecting new peripheral radar networks.⁹

⁸ Summary of the Joint U.S./Canada Air Defence Study, cited in Lafond, pp. 10-11.

⁹ The modernization program is detailed by the Canadian Chief of Air Doctrine and Operations in R. W. Morton, "A Priority Task: North American Air Defence Modernization," Canadian Defence Quarterly 16:3 (Winter 1987), pp. 11-20. Tim J. Hochban of the North American Air Defence Modernization Program Project Management Office estimated the costs of the improvements at less than 700 million 1985 dollars. See his "North American Air Defence Modernization." Canadian Defence Quarterly 15:3 (Winter 1986), pp. 13-17.

Construction of the Canadian-operated element--the North Warning System (NWS)--began in 1986 and was expected to continue until 1993; comprehensive radar coverage was promised along the 70th parallel. The American improvements, including the Over-The-Horizon "Backscatter" (OTH-B) radars, were expected to meet a similar deadline.

Even with these improvements, NORAD would still fall short of any alleged war-fighting capability. Its assets would remain vulnerable, and there was no sign yet that either more AWACs or interceptor aircraft were to be bought.¹⁰

Strategic Defence Proposals--Canadian Policy:

The Canadian government displayed a good deal of circumspection in handling the early American strategic-defence proposals. This was true not only of the only formal BMD proposal communicated by Washington to Ottawa--Defense Secretary Weinberger's March, 1985 invitation to participate in SDI research--but also of the unofficial development and

¹⁰ The defence policy announced in the white paper of June, 1987, provides for the addition of ten CF-18s to the fleet of 137. However, the paper made clear that these were to replace aircraft that crashed or otherwise became un-air-worthy; they could not be considered as reinforcements. See Canada, Dept. of National Defence, Challenge and Commitment: A Defence Policy for Canada (Ottawa: Min. of Supply and Services, 1987), p. 46. [Hereinafter referred to as Challenge and Commitment.]

deployment proposals that emerged in America's strategic defence debate. The caution extended as well into airspace defence, increasingly so as the perception had developed of a probable future linkage with missile defence deployments.

The most forthright Canadian policy statement on defensive deployments was that of Prime Minister Mulroney in May, 1987:

First, extreme care must be taken to ensure that defences are not integrated with existing forces in such a way as to create fears of a first strike. And second, we cannot allow strategic defences to undermine the arms control process and existing agreements.¹¹

Following the emergence of the BMD deployment issue, the Canadian government said that it would oppose all measures that would violate the ABM Treaty or a subsequent U.S.-Soviet agreement.¹²

Caution was most evident in the case of SDI research. Even before receiving Weinberger's formal invitation, the government had set its course in January, 1985 in describing the research program as "only prudent," given "significant Soviet advances." The endorsement was qualified with the

¹¹ Speech to the North Atlantic Assembly meeting in Quebec. In Jeff Sallot, "PM Warns U.S. on Offensive Use of Star Wars," Globe and Mail, May 27, 1987, p. 1.

¹² Canada, Secretary of State for External Affairs, Canada's International Relations: Response of the Government of Canada to the Report of the Special Joint Committee of the Senate and the House of Commons (Ottawa: Min. of Supply and Services, 1986), p. 47.

warning that development and deployment would pose "serious implications" for arms control that would "warrant close and careful attention."¹³

These reservations were carried over into the September, 1985 response to the American offer. Mulroney's statement, that "Canada's own policies and priorities do not warrant a government-to-government effort in support of SDI research,"¹⁴ was ambiguous in that it did not indicate whether government agencies such as the National Research Council would be allowed to seek contracts.¹⁵ This ambiguity was perpetuated in all subsequent government statements.

The policy left open the possibility for private researchers (industrial and university laboratories) to participate but may have narrowed this avenue. Few Canadian firms had secured prime contracts in the year following the

¹³ Secretary of State for External Affairs (Joe Clark), in Canada, Parliament, House of Commons, Debates, 33rd Parl., 1st Sess., January 21, 1985, p. 1502.

¹⁴ "Statement by the Prime Minister on the U.S. Invitation to Participate in SDI Research, September 7, 1985," in SCEAND, p. xvii.

¹⁵ The issue of Crown participation was important, given that the proportion of research and development that is funded or performed by government agencies instead of in universities and industrial laboratories remained higher in Canada than in any other NATO country. See Economic Council of Canada, The Bottom Line: Technology, Trade, and Income Growth (Ottawa: Min. of Supply and Services, 1983), p. 47; see also Canada, Secretary of State for External Affairs, Competitiveness and Security: Directions for Canada's International Relations (Ottawa: Min. of Supply and Services, 1985), pp. 22-23. [Hereinafter referred to as Competitiveness and Security.]

government's announcement. Their spokesmen complained that the Pentagon, dismayed by the Canadian decision, had retaliated by disqualifying Canadian firms from competing.¹⁶ But whether the scarcity of Canadian contracts could be blamed on the Pentagon's angst or on other factors was unclear. Two other explanations were possible. The United States may have decided that controlling the diffusion of the relevant technologies was paramount and that foreign contractors would be excluded unless American substitutes could not be found.¹⁷ Protectionism may thus have precluded Canadian involvement. Moreover, the Canadian research-and-development sector was relatively smaller than those of the countries that did win contracts and may have been judged as less competitive. The Pentagon had earlier indicated as much to its Canadian counterpart, saying that only through significant investment in technological development could Canada

¹⁶ Canadian Centre for Arms Control and Disarmament, Arms Control Chronicle 17-18 (September-December 1985), p. 5.

¹⁷ Some support for the latter proposition lay in the lopsided distribution of prime contracts. The International Institute of Strategic Studies in London predicted in late 1986 that the foreign share of the contracts awarded since the establishment of the Strategic Defence Initiative Organization would not exceed US\$50 million, roughly two percent of the total contract value. See "U.S. Allies' Hopes For Big Star Wars Benefits Fade," Financial Post (Canada), October 25, 1986, p. 12.

have expected its bids to be considered seriously.¹⁸ This appeared more plausible when one considered that West German industries were receiving contracts even while the Kohl government was deciding whether to negotiate a formal participation agreement with Washington. Indeed, it could be suggested that the invitation extended to Canada was merely a polite formality and that not much importance was placed upon a favourable response. Nevertheless, the Canadian businessmen may have had a point in that a more supportive response to Weinberger's invitation might have brought them more business.

In the case of airspace defence, joint planning was not a public issue until after the emergence of the SDI invitation. Beginning approximately in 1979, the United States and Canada had begun projecting air defence requirements for the remainder of the century. Until early 1985, the planning process was insulated from public scrutiny; the Air Defence Master Plan and the larger conceptual framework within which it was subsumed--the first phase of the Strategic

¹⁸ See the testimony of DND's Chief of Research and Development, Derek Schofield, in Lafond, Vol. 4 (March 14, 1984), p. 29.

Defence Architecture 2000 (SDA 2000)--were prepared in relative political tranquility.¹⁹

However, as public awareness emerged that a comprehensive missile defence deployment would almost certainly require a highly-capable air defence adjunct, disarmament and arms control groups as well as nationalists voiced concern that NORAD could draw Canada into the SDI regardless of the government's posture on missile defence research.²⁰ The result was an ambiguous policy on the second phase of SDA 2000: the Canadian government had not said clearly by mid-1987 whether its defence planners had or had not contributed to the study of missile and aerial defence integration.²¹

¹⁹ The SDA 2000 grew from the Joint U.S.-Canada Air Defence Study of 1979. Its first phase, completed in 1982, determined the capabilities required for a surveillance, detection and identification system effective against present Soviet aerial capabilities; the result was an updated Air Defence Master Plan, the North Warning System to replace the DEW Line, and the addition of sectors to the contiguous Over-the-Horizon Backscatter radars in the continental United States. SDA 2000's second phase examined the integration of a much-expanded air defence system with a system of ballistic missile defences.

²⁰ See SCEAND.

²¹ Defence Department officials repeatedly refused to respond to the author's requests for clarification of the status of the second phase of SDA-2000.

Charting the Course of Caution:

Some speculation could be attempted as to why the government chose this cautious route. A speculative approach was made necessary, for the government was in no hurry to explain the reasons for its decision.

The research participation issue was among the first security policy questions faced by the newly elected government, and it presented several difficulties. The previous security issue in Canadian-American relations, cruise-missile testing, had evoked the vocal opposition of a growing Canadian peace movement; political demonstrations proliferated and civil disobedience, although not widespread, was occurring more frequently. The Trudeau administration's solution to the cruise-missile issue, that testing was a North Atlantic Treaty Organization (NATO) obligation, was unavailable to the Mulroney government as NATO had established no policy on strategic defences and was unlikely to do so for some time.

As the government began to chart its course, several factors promoted an acceptance of the American invitation. Among the most important of these was the government's declared goal of improving Canadian-American relations across the spectrum of issues: it may have appeared possible that an agreement to join the research program--in effect, endorsing it wholeheartedly--could have improved Canada's hand

in other bilateral matters, notably in trade or in transnational pollution abatement. Also, the government had taken office with a promise to build up the Canadian armed forces; although the promise dealt with conventional defence improvements, expanding the military's research-and-development capacity may also have been attractive to the Conservatives.

An important consideration working against an acceptance was the government's arms-control stance. The policy inherited from the previous administration had established "strategic suffocation" as a central tenet of Canadian security policy; Ottawa was committed to encouraging a drawing down in the size of the superpowers' nuclear arsenals and to supporting proposals "to inhibit the development of new weapons systems."²² The Mulroney government made no significant revisions, accepting the desirability of "negotiated radical reductions in nuclear forces and enhancement of strategic stability" and the "prevention of an arms race in outer space" as central themes in its approach to strategic nuclear matters.²³

²² Canada, Department of External Affairs, Arms Control and Disarmament Division, "Canadian Arms Control and Disarmament Policy," (mimeo., Spring 1984), p. 1.

²³ Canada, Department of External Affairs, Statements and Speeches, 85/20 (Notes for a Speech by the Right Honourable Brian Mulroney, Prime Minister, to the Consultative Group on Disarmament and Arms Control, October 31, 1985), p. 3.

In addition to its own preferences, the government had to consider the demands that it faced from an attentive public. Business groups, believing a Conservative administration to be more amenable to their views than the Liberal predecessor, pressured the government to participate in SDI in the hope of their winning contracts. Technologically-oriented industries, especially the aerospace sector, lobbied strenuously before legislative committees, arguing that joining the SDI would raise Canada's employment and national income and stimulate its research capabilities.

The Department of National Defence also favoured Canadian participation. As early as 1981, well before the SDI was first announced, Colonel Bill Weston, a strategic policy analyst, had urged a joint development and deployment program for space-based aerospace surveillance and directed-energy missile defences.²⁴ Reasoning that defensive deployments were probable if not inevitable, he stressed the importance to Canada of ensuring joint management of the transition so that Canadian interests, especially sovereignty, could be taken into account. Weston's line of argument was important in that it illustrated a key approach for the Defence Department: a presence in American military planning alleviated some of the difficulties inherent in Canada's

²⁴ W. C. Weston, "A Look Ahead at North American Air Defence in the Eighties," Canadian Defence Quarterly 10:4 (Spring 1981), p. 10.

relationship with its much more powerful ally.²⁵ Similarly, following the SDI announcement, the Assistant Deputy Minister for Policy, John Anderson, proposed a NORAD-style institution to oversee the operations of future active strategic defences.²⁶

Although the government faced these pressures in favour of participation, countervailing demands were expressed by growing disarmament and arms-control lobbies, and by nationalists who disagreed that bilateral institutions offered a useful channel into American military planning. These groups besieged the Special Joint Committee's public consultations in the summer of 1985 on the SDI invitation, hoping for a clear Canadian rejection that could perhaps be used in the United States to constrain the research program.

The arguments conflicted with those of the business lobby to the point that the joint committee was unable to

²⁵ This was the same reasoning that brought Canada into NORAD in the 1950s. See Cox, Canada and NORAD. Defence has also used the argument to further Canadian participation in the SDA 2000. See Gordon Barthos, "Mulroney Faces Dilemma Over Joining Star Wars Study," Toronto Star, May 28, 1986, p. A-20.

²⁶ SCEAND, Vol. 36 (October 9, 1985), p. 33.

offer the government any clear policy guidance.²⁷ Even so, the committee hearings showed the government the degree of opposition that it could expect were it to accept the American invitation.

Reinforcing this perception of potential voter alienation were the results of an extensive public opinion poll on foreign policy conducted shortly before the government announced its decision. As Decima Research is reported to have told the government in August, 1985:

As far as the extent of a role in SDI, only a minority support both research and development but there is majority support for at least a research role. But given the limited amount of enthusiasm for SDI, any decision not to participate will likely provoke few negative comments.²⁸

The public's sentiments may have been a highly relevant factor, for the Mulroney administration had displayed a

²⁷ The committee's conclusions leaned slightly away from approval of Canadian participation, but broke no new ground. Effectively, the committee's interim report mirrored the government's January, 1985 statement (repeated in the Green Paper on foreign policy in May) that research would be prudent but that serious concerns for strategic stability would attend the subsequent stages of production, testing, and deployment. See Canada, Parliament, Special Committee of the Senate and of the House of Commons on Canada's International Relations, Minutes of Proceedings and Evidence, 33rd Parl., 1st Sess., Vol. 18, pp. 64-66 [Hereinafter cited as Hockin-Simard]. See also Competitiveness and Security, p. 39.

²⁸ Decima put 123 foreign-policy questions to 1500 respondents between July 9th and 16th. See Christopher Waddell, "Poll Alerted Ottawa to Lack of Support for Star Wars Role," Globe and Mail, March 9, 1987, p. A-12.

remarkable sensitivity to public opinion, even in foreign-policy issues (notably free trade). In this it departed from the practice of previous governments, for whom foreign policy rarely raised the prospects of electoral retribution.

Thus, the research participation decision was a difficult one that required the government to balance a variety of demands. The resulting policy was cautious in that it mildly endorsed the Initiative while keeping Canada at arm's length. As the Hockin-Simard committee pointed out, this posture allowed the government more manoeuvring room than would any other. While not buying in to the program, the government could attempt to do so later if it believed such a move were necessary.²⁹ Additionally, the government would avoid the constraints on its arms-control diplomacy that would arise from a more enthusiastic stance on the SDI.³⁰

Caution is, of course, a commendable quality in a government, and particularly so for a middle power. Yet caution should not necessarily have remained the government's watchword on all issues. In some cases, assertiveness would have its place as well. Whether Canada's future position on the SDI, particularly were deployments to be contemplated,

²⁹ The June, 1987 white paper maintained this possibility: "The Government will follow closely the progress of such research in order to determine its implications for international security. Future decisions on Canada's role, if any, in ballistic missile defence will depend on these developments." Challenge and Commitment, p. 19.

³⁰ Hockin-Simard, Vol. 18, p. 59.

should lean toward caution or towards assertiveness is explored in the two sections that follow. The first section advances the criterion of security: future Canadian policy should be prepared to include considerations of whether ballistic missile defences, with or without more substantial aerial defences, would reduce the risks of nuclear conflict. Subsequently, sovereignty is addressed: the government should be ready to establish whether Canadian territory could help or, if necessary, hinder the future course of America's strategic defence program.

Future Proposals: Canadian Security?

A principal problem for Canada would be whether deployments of missile and new aerial defences would contribute to or detract from Canadian security. If the vision that launched the SDI were fulfilled in its entirety, and a comprehensive and impermeable shield against ballistic missiles were to be erected over the American population, then the security question for Canada would embody two components: whether such a deployment would be strategically stabilizing, and whether the shield would also extend over Canadians. Both components involve an examination of such proposed systems for their feasibility and effectiveness, an examination that would have had to await their emergence from

the laboratories. The first component, however, also would involve a consideration of Soviet defensive systems and the stability of the future superpower strategic relationship. As an earlier chapter has shown, American strategic analysts remained polarized on this question; similarly, Canadian analysts were far from establishing a consensus.

If the SDI produced deployment proposals that fell short of the envisioned comprehensive population defence, then obviously the question of shielding Canadians as well as Americans would be irrelevant; the security question facing Canada would centre fully on the consequences that the deployments could portend for strategic stability. In this case, ballistic missile defences might well contribute to Canada's security by reinforcing strategic stability--namely, by diminishing the attractiveness of pre-emptive attacks in crises and by reducing the incentives for further development of offensive weapons. However, if the defences promoted first-strike fears and a greater demand for counter-force weapons, either of which would erode stability, then Canada's security would be diminished.

More substantial deployments of air defences could also affect Canadian security, even in the absence of missile defences. Their contribution would be beneficial were the Soviet Union to substitute bombers and air- or sea-launched cruise missiles for ballistic weapons. This substitution could be expected to occur for reasons other than the

prospect of ballistic missile defences: advances in technology made the cruise more attractive for attack planning, and the cruise was the only addition to the Soviet strategic forces that would continue compliance with contemporary arms control treaties.³¹ By the logic of deterrence reasoning, an improved interception capability would increase North American security by ensuring detection and retaliation for a cruise-based attack.³² On the other hand, were the Soviet Union not to improve its cruise capabilities, reinforcing the present level of air defences would be largely unnecessary.

Lastly, more substantial air defences held the potential to magnify the strategic consequences of missile defence deployments. If the Soviets perceived the latter deployments as de-stabilizing, their probable response would be to acquire more weapons that could penetrate or defeat both the missile and air defences--more advanced ballistic missiles and pay-loads could be expected, and a greatly expanded cruise-missile arsenal could be acquired in order to get around the reinforced air defences. In addition to the proliferating weapons, the Soviets might also be

³¹ David Cox, Trends in Continental Defence: A Canadian Perspective, Occasional Papers, Vol. 2 (Ottawa: Canadian Institute for International Peace and Security, 1986), pp. 12-16.

³² Notice³ that this assumes the Soviet acceptance of a war-fighting doctrine.

sufficiently worried about a first strike that they would be more willing to consider pre-emptive attacks as useful responses during a crisis. Clearly, neither development would improve Canadian security.

Future Proposals: Canadian Sovereignty?

As with security, sovereignty could become an important aspect of future Canadian policy on strategic defences. The strategic value of Canadian territory could rise in future with certain types of deployments; in some cases the desirability of its use might be presented as a necessity. This would present both advantages and problems. In the former case, the government might have hoped to bargain for a position of influence in strategic defences; in the latter, the government might be constrained in the types of policies that its electors would allow.

Whether the sovereignty issue would arise at all seemed to depend to a large extent upon the relevant technologies, for military planners preferred that deployments occur in space. Since the advent of the SDI, this had been discussed more often in the context of missile defence deployments, for which space-based surveillance was definitely desired, particularly for boost- and mid-course-phase interceptions as well as for the defence of orbiting SDI components. But

the space-basing preference had long existed for air defence components as well. The 1979 joint study identified orbiting sensors--infra-red, radar, or both--as preferable to ground-based radar, believing these more effective in identifying and tracking aircraft and cruise missiles over a wider area.³³ Since then, NORAD officials had indicated that specific proposals were forthcoming to supplement the Space Detection and Tracking System (SPADATS).³⁴ Certainly, if space-basing became feasible for these surveillance tasks, then the sovereignty issue need not arise.

However, substituting space-based surveillance for ground-based methods seemed a distant prospect, as this was written. Neither the costs nor the technologies were well-enough understood, and ground-basing still appeared a likely choice for both missile and air defence surveillance. Were missile defence deployments to proceed, it might be necessary to reinforce existing devices, such as the Ground-Based

³³ Derek Schofield, in testimony to the Lafond committee. See Proceedings, Vol. 4 (March 14, 1984), p. 25.

³⁴ Craig Covault, "NORAD, Space Command Request System for Surveillance of Soviet Weapons," Aviation Week and Space Technology, April 6, 1987, pp. 73-76. The improved surveillance capability would allow NORAD/SPACECOM to track missiles--even intermediate-range--in all theatres. The Iran-Iraq conflict is cited as a likely application.

Electro-Optical Deep Space Surveillance System (GEODSS);³⁵ it was possible that some of these devices would require basing in Canada for mid-course-phase tracking. Also, Canadian airstrips appeared necessary for the Airborne Optical Adjunct (AOA), a sensor-crammed Boeing aircraft proposed for the management of a mid-course-phase battle.

Deployments of defensive interceptors also held the promise of requiring Canadian territory.³⁶ This looked less likely for a simple ground-based terminal defence erected above U.S. silo fields, such as the High Endo-Atmospheric Defence Interceptor (HEDI). However, were HEDI also used to protect command and control facilities, deployments could be expected around the Canadian components (such as the Regional Operations Command Centre at North Bay, Ontario and the Cabinet's bunker at CFB Carp). The use of Canadian territory would become even more necessary for the deployment of ground-launched mid-course interceptors, such as the

³⁵ GEODSS used what was essentially a camera to scan space and to track objects. It replaces the outdated Baker-Nunn devices, of which the last Canadian contribution in St. Margaret's, New Brunswick, was to be turned off in 1988. At that time, Canada would have no space-surveillance capability. See the testimony of George Lindsey, DND's Chief of the Operational Research and Analysis Establishment, to the Lafond committee in Proceedings, Vol. 2 (February 22, 1984), p. 16.

³⁶ John Pike, "The Technology of SDI," Appendix II of Challenges to Deterrence--Doctrines, Technologies and Public Concerns: Proceedings of the Conference on Challenges to Deterrence, ed. Diane DeMille (Ottawa: Canadian Institute for International Peace and Security, 1985).

Exoatmospheric Re-entry Vehicle Interceptor System (ERIS) or Braduskill.³⁷ And should the lasers that were being investigated for boost-phase interceptions require ground-basing, their deployment in northern Canada and Alaska could ultimately prove necessary. Moreover, if the establishment of ambitious missile defence systems were to entail a larger air defence fleet, far more operating bases would certainly be required.

While speculation surrounded each of these deployment possibilities, it was clear that each would raise the question of Canadian involvement and could exacerbate the sovereignty issue.

Canada's response to proposals to station defensive devices on its territory could take any of three forms: the devices could be operated by the Canadian military; they could be operated jointly, NORAD-style; or they could be operated by Americans. The first possibility appeared dubious--non-existent, even--as the United States seemed likely to want American hands at the controls of such vital systems. Such a preference had been demonstrated throughout its handling of strategic nuclear matters, and it was improbable to suppose that defensive adjuncts would be treated

³⁷ Braduskill is an idea for a mid-course interceptor that would be launched from northern latitudes towards the United States; it would fly alongside a "threat cloud" for as long as 15 minutes, identifying warheads amid the penetration devices before attacking them. See Cox, Trends in Continental Defence, p. 28.

differently. This reasoning would likely lead the United States to favour the third option, but two factors would probably make the second possibility, joint operation, more likely. In the first place, the United States had generally recognized Canadian territorial jurisdiction (the polar-trekking vessels of 1985 notwithstanding) and the need to include a Canadian presence in planning and conducting operations north of the border. Second, the Canadian government and public had shown themselves decidedly against operations and installations in Canada that were solely American.

Future Responses:

In 1987, it was clearly premature to advance specific policy proposals, given the uncertainty that active defences would ever be deployed. Even with this uncertainty, it was clear that Canada should be attempting to gain as thorough an understanding as possible of the technologies at hand and the ways in which they could be used, and anticipating the consequences of movements toward their deployment. If deployments were to come about, Canada's policy of aloofness would have run its course and would have to be replaced by a policy that either supported or opposed the erection of

anti-missile shields, and that included a sufficiently legitimizing explanation of our purpose.

Canada also had the choice of ignoring the issue of strategic defences, believing--perhaps correctly--that the research program was unlikely to lead to developments and deployments. Pursuing this course, only to be confronted with proposals for deployments, the government would have found itself with remarkably little to say about them and far fewer arguments at hand with which to support or to oppose them for their security potential. Only sovereignty issues would then be open to negotiation and, even only if the deployment plans included a requirement of Canadian land. From the perspective of security, Canada would find itself a silent partner, willing or no. Yet this posture of studied ignorance appeared an implausible one for Canada given the attention that strategic defences had evoked--both among the public and the recently-emerged disarmament and arms-control lobbies, and within the defence and foreign policy apparatus in the Canadian bureaucracy.

If the uncertainty were to persist regarding the strategic consequences of deployments, even once such proposals were initiated, then Canada faced the prospect of basing its judgement on criteria other than their strategic usefulness. The government still had, for instance, the option of promoting deployments as sources of business for Canada's technological sector, and perhaps also of bargaining for

industrial offsets in return for the use of Canadian territory. However, this could raise a problem of economic efficiency; the growth of any sector is probably greater if it is stimulated directly, rather than through the fiscal processes of a foreign government. Additionally, several political problems seemed likely to arise. This stance would inevitably invite the concerted opposition of domestic groups that could scarcely be appeased by the prospect of a growing Canadian arms-production sector. The standing arms-control policy would be impaired if not seriously disabled; Canadian diplomats could hardly be credible in advocating that weapons stockpiles be reduced. And the effect on the NATO alliance could be the opposite of the cohesion that Canada has traditionally sought, particularly if missile defence deployments were to bring about the trans-Atlantic uncoupling against which the Western Europeans were already warning.

A clearer picture of the strategic consequences would provide Canadian policy with a firmer foundation but would still invite criticism from domestic groups and foreign actors. Evidence that missile defences promoted stability would probably prompt a security-minded government to support their deployment and perhaps even to offer the use of Canadian territory and other resources. Domestically, the political support of arms controllers could be expected to the extent that they shared the government's expectation of

greater strategic stability, but the opposition of the disarmers would be virtually certain. Nationalists seemed prepared to line up against the government, more certainly so were the deployments to rely on the hegemonic management of Canadian resources. Abroad, the perception of Canada lining up squarely with the United States promised to raise questions about Canadian sincerity in multilateral forums, especially in the on-going consultations on disarmament, a comprehensive test ban, outer space militarization, and non-proliferation. However, the United States could have been counted upon to welcome the Canadian decision, perhaps for the (even token) contributions towards strategic defences, and more certainly for the image of solidarity that could then be presented in strategic negotiations (including transition-period management questions) with the Soviet Union.

On the other hand, a conclusion that the proposed missile defences would erode stability and would confer no military value would probably lead Canada to try to oppose them. This approach would mean an attempt to restrain American enthusiasm for deployments--working behind the scenes in the NATO alliance and in Washington, and supporting elements of the American élite that opposed deployments. Domestic support could be expected provided the Canadian position were publicized; a reliance on quiet diplomacy to the exclusion of public awareness could prompt domestic criticism. But this tactic would depend critically on the power

resources at our disposal. Success was uncertain, and the government was to be prepared to fall in line if the United States prevailed in the bargaining. A precedent existed for this--our initial opposition to the previous ABM deployment, which led ultimately to the Pearson government's ambivalent acceptance of the 1967 ABM package, with its implications for active defences that would have clutched Canada more firmly to the American breast, had the course of technology not forestalled this consequence.³⁸

³⁸ See Ronald G. Purver, "Ballistic Missile Defence and Canada," in Canadian Perspectives on the Strategic Defence Initiative, Issue Briefs, Vol. 4 (Ottawa: Canadian Centre for Arms Control and Disarmament, 1985), pp. 11-12.

Conclusion

The debate conducted in the 1980s on the Strategic Defence Initiative has been presented as a dimension of a broader and more fundamental debate on America's future role in the international system. This larger debate had gotten to be well underway in the mid-1980s, as the United States attempted to establish a definitive approach for itself that would carry it into the next century. Conceptions of alternative national roles had flowered for several years, emerging in response to growing doubts regarding America's post-war "containment" policy, the erosion of the political consensus upon which containment had become doctrinal orthodoxy, and the diffusion of the power by which it was applied.

The conditions giving rise to this debate prompted several innovative efforts that included the investigation of advanced technologies as potential vehicles of an American restoration, and the construction of new "theory" that offered legitimacy to discussions of capability renewal. In this context, the SDI promised a variety of instrumental

possibilities, but their plausibility depended on the resolution of uncertainties that were both technological and political. Thus the applied research program became both sword and foil: even as it beckoned as an ideal means of preserving American security in a fluctuating international environment, the general immobilism encompassing foreign-policy formulation threatened to delay or even to deny the augmentation of American power.

For Canada, the implications of the debate were uncertain. Because of its spatial location, Canada seemed a likely participant in the American technological effort--if not as a major contributor to scientific and engineering developments, then as a purveyor of land and other accommodations that the strategic defences would probably require. Taken alone, these near-term possibilities threatened to exact political costs. However, viewed in conjunction with the broader and longer-term process of U.S. role redefinition and technological innovation, Canada's choices remained unclear.

To a large extent, the future course for both nations depended not only on the path to be followed by the applied research program but also on the politico-military doctrine invoked to justify its creations. Doctrine is not a direct source of a state's foreign policy choices; neither is it a prerequisite for policy formulation. Yet it fulfils a role in that it gathers related beliefs and thoughts into a group

that can be taught and learned. Thus a doctrine is a cognitive device that functions both within and without a state. Within, it helps to order perceptual reality, identifying political and military problems requiring the application of capabilities and the mobilization of resources; the state's acquisition of these instruments is thereby facilitated. Doctrine aids the political communication that is a necessary formative element of policy; by justifying, explaining, predicting and prescribing, it helps to foster the political support for a policy and its instruments of execution. Externally, doctrine serves the statesman for making credible promises and threats. In the United States, doctrine is the principal means of exercising influence abroad through the threat of war as an instrument of national policy. Generalizing from the American experience, James Payne has written:

Central to the statesman's distinctive perspective is his appreciation of the enormous importance of the threat of war in world affairs. His thoughts, his words, his deeds are shaped by this appreciation. As the carpenter uses wood, and the pharmacist, drugs, the statesman year in and year out works with the threat of war.¹

Also externally, doctrine is a means for holding allied powers in line with the American will. As communicated within

¹ James L. Payne, The American Threat: The Fear of War as an Instrument of Foreign Policy (Chicago: Markham, 1970), p. xii.

the American sphere, doctrine may intimidate subsidiary nations and improve their obedience to American leadership.

Several examples of the power of doctrine are found in American history; but none could be as relevant as that of containment. The convenient label identified communist villainy as the prime threat to the values of liberal democracy and economics, and prescribed the remedies of systemic policing by the United States, a network of alliances established around the Soviet Union's perimeter, and always the threat of war. These pillars of post-war policy were erected upon a consensual base--the firmest cognitive foundation. For a generation, the doctrine identified the Soviet Union as the principal focus of American action abroad and sustained the legitimacy--the "correctness"--of this view against more secular challengers.

Although compelling, this system of beliefs was gradually undermined once its interpretations began to diverge from the course of external events. Containment had nourished expectations of a stable international environment. With the Soviet Union at bay, radical change would be circumvented; the United States and member states of the "free world" could engage in a peaceful and orderly pursuit of their own interests. But beginning in the 1960s, and continuing through the 1980s, this American view was increasingly challenged from abroad. A chain of crises erupted along the American periphery, including the seminal event of

the Vietnam War. As well, surprises ensued closer to home, both in less-peripheral regions of American interest such as Central America and, more centrally, in Europe.

As we have seen, American foreign policy began attempting to adjust to the evolving environment, with the administrations of the 1970s seeking limited accommodation with the Russians through détente, and attempting to share with its allies the burdens of security. Yet these strategies were not effected as easily as was containment. Foreign policy makers and analysts approached problems from the varying perspectives that Holsti and Rosenau have termed "belief systems," none of which could be established as the authoritative outlook. The consequence was a policy-making atmosphere of acrimony, bewilderment, and general immobilism.

Although the doctrinal consensus fractured for what is no doubt a wide variety of reasons, this essay has restricted itself to discussing the power resources that underpinned the instruments of policy and setting these within theoreticians' concepts of hegemony, and the relative concentration and diffusion of power. As relatively concentrated power grew more diffuse, policies that had depended on the concentration of power were less likely to fulfil their purposes. Both they and the intellectual support system that spawned them evoked increasing doubt and skepticism. Accordingly, the United States set about attempting to understand its changing status in an international system that it believed

to be less responsive to its control, and searching for an appropriate conception of its national role.

Samuel Huntington says: "Historically, the output of political theory correlates rather well with the presence of political crisis, turmoil and conflict. So also, when vital controversies arise, military doctrine flourishes."² Hegemonic-succession theory, emerging during this period of meditation and national doubt, reflected the conditions that prevailed at its birth. As we have seen, proponents of the new theory were in general agreement that the United States had begun tracing a course of hegemonic decline. The depth of the descent was uncertain in objective terms; certainly the United States still ranked above other states on many indicators. Yet the decline was more important as a subjective phenomenon. The perception was widely shared that American power had crested relative to that of other states and that American domination of international politics had begun to erode.

The perceived degeneration of dominance was especially important in the strategic nuclear dimension of U.S. power, a form of coercive force whose nature virtually prohibits an objective, meaningful comparison of relative power. The sharpening of the strategic policy debate illustrated the

² Samuel P. Huntington, The Common Defense: Strategic Programs in National Politics (New York: Columbia University Press, 1961), p. 403.

consequences of the perceived power malaise. If it is through doctrine that some aspects of reality are codified and explained, then changing realities should be reflected in changing doctrine. This was precisely the case in the strategic dimension. As the Soviet Union prepared to draw abreast of the United States in the amount of destructive force at its disposal, the new strategic doctrine of the mid-1960s and 1970s evoked concepts that addressed the diminution of American supremacy: "parity" and "essential equivalence" were but two examples. But the doctrine lacked the sufficiently broad appeal that it needed to exclude contending faiths once its prophetic qualities began to be disqualified. And as the reality of the Soviet Union's increasing capabilities and confident enunciation of a war-fighting doctrine fostered the perception--not for all participants, but for some--that asymmetrical strategic capabilities could be decisive, concepts of "escalation dominance" and "prevailing" found their place in a new contending doctrinal discourse.

From the mid-1970s, then, two strategic doctrines vied for the status of orthodoxy. The first of these systems of belief accepted the pre-eminence of political agreements as its credo: a central nuclear war could best be avoided by constraining the development of weapons through treaties and understandings with the Soviet Union--agreements that established a rough balance of nuclear forces and codified the

(mutual) condition of assured destruction. In opposition, the second body of thought placed a lesser value on political agreements, than it did on military strength. In this view, the Russians could not be trusted to keep agreements; their compliance with American objectives could be obtained better if the Soviet Union faced an employable nuclear arsenal of equal, if not superior, capability.

More broadly, the tension between the strategic doctrines illustrated the points of contention between the different responses to hegemonic decline. From a more liberal perspective, calamity could be avoided by co-operation. As Keohane asserted in the doctrinal debate, political agreements and understandings were valid instruments that could aid in maintaining the status quo. Hegemonic power, although useful in establishing international order, was not necessary to its continuation as long as international actors could maintain a commonality of interests and could receive net benefits from régimes and other institutionalized processes. The prescription for policy makers was to perpetuate régimes and the like, a strategy placing a greater emphasis on diplomatic rather than military power. However, from a more conservative perspective, entropic processes were likely to lead to calamity, as they had in previous imperial eras. As Gilpin and Modelski have argued, hegemonic power was a critical element of stability that would eventually erode; international accords might survive

for a time but would be undermined by the shifting of relative power and the eventual divergence of states' interests. If stability were to be maintained, the hegemon would have to innovate technologically, economically and politically in order to counter the diffusion of technology and power and thus to preserve the relative differential upon which its leadership rested.

Thus the United States faced choices, and was engaged in debate. It was too early to say which of the alternatives would in future be chosen. The choice would be affected by a profusion of factors, including the path of technology, the course of internal and external events, and the passage of time. Political will would also be important, for without a greater concordance among opinion leaders on either internationalism or isolationism, grand strategies appeared beyond the reach of foreign policy makers.

In this context, the Strategic Defence Initiative was an important conception. The breadth of the program virtually presaged the development of technologies that could become pivotal components of grand strategies of restoration. The more-obvious context was military, particularly with respect to ballistic missile defences, but other applications could not be overlooked. These latter could include a fundamental re-orientation of production processes, for example: the economic potential of the advanced technologies might prove as valuable to the United States as had indus-

trialization and free trade for Britain in its nineteenth-century hegemonic restoration.

More definitive assertions about the SDI's contributions could not be made within this essay, for far too many uncertainties existed to permit a clearer statement. Many of the advanced technologies under consideration had not yet attained their standard form. Generally, in complex technological innovation, there is a creative period between the first conception of the technology and the final understanding of the forms and functions of its application. In this interim, differences usually arise concerning the best application of the new technology; the debate, as it progresses, tends to foreclose some options and to resolve these differences. Gradually, the ideas and applications of the new technology become standardized. The advanced technologies contemplated by the SDI had entered this interim period, but the process of foreclosing options and standardizing applications was not complete as this was written.

At the scientific and engineering level, substantial disagreement existed about the feasibility of the initial conceptualizations encompassed in President Reagan's research mandate. Politically, the technologies were pulled in diverse directions by the strategic doctrinal dialogue. Presumably, some standardization of ideas would occur once the early decisions about the technologies began channelling

the program along a more certain course--to be legitimized in the form of a strategic doctrine.

Under these conditions of technological and political uncertainty, it was premature to attempt detailed discussion of the SDI's consequences for Canada. However, some broad outlines could be attempted. This essay has suggested that the principal issues that would have to be addressed if and when deployments were proposed were Canadian security and sovereignty. The former would entail a consideration of whether the defensive deployments were likely to increase the risk of war or to reduce it; this issue was one to be faced by all nations and not by North America alone. The latter was specific to Canada, for it contemplated the state's ability to exercise control within its territorial jurisdiction. As we have seen, several of the weapons systems could have required, or could have been made to require, the use of northern Canadian territory, and the government in Ottawa would have to decide whether to accept these deployments uncritically or with reservations.

Although these were the issues that would probably arise, it was improbable that they would be clear-cut. This was because defensive deployments were not likely to be proposed on their own merits, but rather were likely to be assumed and legitimized by strategic doctrine. This was an aspect which would likely be of concern to Canada. Traditionally, the American doctrinal debate has been largely in-

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ternal to the United States and does not appear to have extended into relations with allies. This is not to say that Canada and other American allies have not debated doctrinal points; NATO has seen several discussions of overall strategic policy. However, these appeared in retrospect to have been debates mostly within a fraternity rather than between schools. Not since the introduction of Limited Nuclear Options had a major confrontation emerged between advocates of minimum deterrence and of war-fighting. And while this occurred in the NATO context, it did not spill over into bilateral relations. Because of its status as a subsidiary nation, and because its understanding of overall order and stability generally matched that of its protector, Canada had generally accepted U.S. doctrine as it has been offered. When Ottawa had reservations about the wisdom of American policy, it had stifled its dissent in public.

We have seen that the differing doctrines pose varying technological requirements, from the easily-met needs of minimum deterrence to the more demanding hardware and software specifications of the war-fighting and defence-dominance approaches. These contenders also posed very different requirements for Canadian security contributions: a minimum-deterrence posture would be less demanding than a war-fighting stance and would offer Canada a ride at a discounted price, even if were not entirely free. Thus a resolution of the strategic doctrinal debate, excluding one set of

strategic theories in favour of another, could carry wide-ranging ramifications for Canadian security policy. This appeared to be more likely if the United States settled upon the more conservative branch of war-fighting doctrine for its strategic forces, and less likely under a continuation of the status quo.

The doctrine of assured destruction accorded Canada a minimal role, as it relied on the threat of a central nuclear exchange--upon the superpowers' ability to destroy each other's population. It placed little strategic value upon Canadian territory beyond the provision of radar sites and airspace for surveillance and early warning of Soviet aerial attacks. The move towards a war-fighting doctrine in the 1970s did not fundamentally change these requirements. Indeed, the pattern of technological evolution threatened to lessen these requirements even more, as the United States began contemplating the substitution of space-based surveillance for the less-efficient systems flung across the Canadian north.

Thus, under the two doctrines that have dominated American thought about nuclear weapons, our role had been diminishing. The declining value of our territory, coupled with our lack of nuclear weapons and our marginal conventional contribution to collective defence, effectively excluded Canada from having to address the core problems of modern mil-

itary policy making. We were able to take what amounts to a free ride.

A more vigorous war-fighting doctrine, in contrast, threatened to draw Canada towards the centre of the military jostling of the giants. Preparations to fight a nuclear war would inevitably exact a greater use of resources by both a nuclear power and other states whose territory it identified as strategically valuable. This was evident to Canada in the 1950s, when assured destruction's predecessor placed a premium on strategic defences and northern interceptions; significant expenditure was required to provide an air force capable of limiting the damage of a Soviet attack. Beyond the military expenditure, Canada bore costs in terms of sovereignty, losing a measure of control of its air force and airspace, and in economic terms, through the fragmentation of its aerospace production sector. Similar consequences appeared probable from a contemporary revival of strategic defences within a war-fighting framework.

Much depended, of course, on the technologies to be used and on the basing mode of the weapons. Would they be in space or on the ground? Would they defend silos and military installations or would cities be shielded? The answers would set the environment within which the Canadian concerns for security and sovereignty could be addressed more substantially. Yet even without these answers in hand, it was already clear that an American foray into missile de-

fences, would pose domestic political problems for Canada, given our latent nationalism or wariness of American adventuresomeness, and our pacifism or mistrust of militarism. These aspects of our political culture appeared likely to form the wellsprings of opposition to defensive deployments. Proposals to base the weapons and their support systems in Canada promised to force a confrontation with Canadian disarmers and arms controllers and to renew nationalist anxieties that the Canadian military was excessively integrated with, and dominated by, its American counterpart. The government's choices would be difficult, but it should be prepared to follow the joint parliamentary committee's proviso that considerations of security outweighed all others. Surely the committee was correct in this, for the sovereignty of a smoking, radiating ruin could only be a moot point.

Another effect was also noticeable in the tone of the Canadian debate: thus far it had been primarily an extension of the American dialogue. That is, in the two principal public forums on Canada's role--the joint parliamentary and the Commons committees--discourse relied heavily on strategic concepts and definitions that were imported. In line with the basic functions of hegemonic American military doctrine, Canada's strategic discussions are projections of the American dialogue, with Canadian analysts grouping under contending American doctrines. To introduce a Canadian doctrine to the debate at this time was an improbable task,

particularly given this country's lack of either a strategic nuclear force or a tradition of devising alternative strategies for its protector state. This was, perhaps, a more subtle aspect of hegemony: Canada's security debate was conducted in American terms, not only in the contemplation of practical action but also in mainstream intellectual discussion. In seeking to find ways to avoid war we paradoxically found ourselves locked into a protracted debate as to how best to use the threat of war to serve our own hegemonic power's purposes--if ever they could be found.

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