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The British Approach

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Physics and Metaphysics of Deterrence

The British Approach

Myron A. Greenberg

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Contents

Abstract . . . . . *vi*

Preface . . . . . *vii*

Acknowledgements . . . . . *x*

I. The Evolution of a Doctrine 1

First Principles 1

Independent Standing 3

The Reliability of the United States 7

United States "Reliability" as Theme, Context, and Occasion: A Reconsideration 32

The Maintenance of Credibility 33

New Directions: A Substrategic Role for Strategic Systems 37

II. Forging the Instruments 41

Secrecy as Strategy 41

Dissimulation as Statecraft: The Thucydidean Paradigm . . 46

Policy Management for an Independent Nuclear Deterrent 53

The Genesis of Deterrent Systems: The V-Bomber 56

The Second Generation 58

Trident II: The Third Generation 66

III. Objectives 71

The Past Is Prologue 71

Future Trends 73

The Physics and Metaphysics of Deterrence 74

Appendix 77

Notes 93

About the Author 104

Abstract

The principal findings of this study are that Great Britain's search for an independent nuclear deterrent was waged with a purposeful dedication that wedded highly effective statecraft and brilliant, innovative nuclear engineering to produce a strategic nuclear deterrent that remained under her sovereign control. Because Britain's efforts in this area were so often achieved in the face of United States' opposition, Britain's subsequent utilization of her deterrent capability as an instrument to secure American support, notwithstanding that opposition, ought to be considered an example of successful policy management. The product of this effort has been the Anglo-American "special relationship" in nuclear weapons. The demonstrable success of British policy management to nurture and secure the special relationship in nuclear weapons is confirmed by its endurance in the face of American indifference, if not overt hostility, to its continuation. A major contention of this inquiry, therefore, is that the independent nature of Britain's strategic nuclear deterrent has been the primary prerequisite for the evolution of an interdependent, hence "special," relationship with the United States. This relationship will endure, for it must; the physics and metaphysics of strategic relationships in the thermonuclear age will secure this constancy. In the meantime, Britain will play a far greater role internationally than heretofore, just as the special relationship binds her ever closer to the United States. And this, after all, has always been a principal objective of British policy.

Preface

The Cold War is over. In its wake, a new world order has emerged. The specter of Soviet communism threatening the West has vanished with the collapse of Soviet power. Seeking an explanation for that collapse, the distinguished strategic thinker, Sir Michael Howard, observed:

> All the conventional wisdom patiently garnered and winnowed over the past forty years, all those hundreds of books and scores of thousands of articles about East-West confrontation churned out by international-relations and strategic-studies communities, suddenly seem about as relevant to our present concerns as the lore of medieval alchemists. Where now shall wisdom be found?[1]

Where indeed? With the smashing of the Cold War paradigm, an even more decisive question emerges: How was atomic, and later thermonuclear, policy *qua* policy managed during the Cold War?

Credit for the defeat of the Soviet Union has been justifiably attributed to the United States policy of strategic encirclement by means of naval, air, and land-based nuclear weapons. However, what is not so clear or so public is the collateral role played by Great Britain in the containment—hence deterrence—and final denouement of the Soviet Union. As a thermonuclear power in her own right, Britain can project her power globally and impact thereby the central geostrategic balance of power.

Britain's nuclear capability has been overshadowed by the numerical predominance of the American and Soviet arsenals and, in particular, by the configurational diversity of American weapon systems. Consequently, with a few notable exceptions, Britain's nuclear capability has been marginalized by scholars and other commentators.[2] Thus, "the search for the origins of Soviet-American antagonism has tended to push the role of the third of the Big Three to the margins."[3] This focus, however, has been misdirected, for Great Britain has been remarkably successful in achieving her political objectives vis-à-vis the Soviet Union—and the United States. The source of this success lies in Britain's development of a credible independent nuclear deterrent and the concomitant policy to manage it. Britain has skillfully placed her nuclear strategy at the service of national policy and has realized very great results for her efforts. In so doing, Britain has proven herself an apt student of Bismarck.

With the smashing of the prevailing Cold War paradigm, therefore, the time has come to rethink Britain's postwar role and perhaps discard old images and prejudices, since "there is a general acceptance within the literature published since the opening of the archives that British foreign and defense policy was

much more important during the formative Cold War years than had traditionally been recognized."[4] We need, therefore, to inquire into the British approach to nuclear deterrence to discover its source and substance. In this connection, we need to treat the modalities adopted by British policymakers for the management of the United Kingdom's nuclear deterrent and, ultimately, identify those politico-strategic objectives Britain sought and seeks to gain by virtue of her possession of such awesome weapons. In her pursuit of those objectives, Britain's deterrence doctrine developed around the following core themes:

- **A commitment to First Principles.** These are the transhistorical principles bequeathed to Britain by the geopolitical-geostrategic reality of her island-nation location as well as those of her greatest statesmen—principles to which Britain has shown fidelity over the centuries.
- **Independent Standing in Nuclear Weapons.** The development and deployment of nuclear weapons under the sovereign control of the United Kingdom. That is to say, Britain has been single-minded in her devotion to the possession of a nuclear deterrent that is under the operational guidance of a single, sovereign key—a British key.
- **The Questionable Reliability of the United States.** The British have questioned the reliability of the United States to apply its nuclear weapons in defense of vital British interests—or, alternatively, to risk destruction of American cities in a nuclear crisis, notwithstanding the NATO alliance. The American nuclear "umbrella," the British might argue, offers Europe protection in fair weather only and will not open for them when and if the "storm" comes.
- **Maintenance of an Assured Destruction Capability.** The British have developed the nuclear capability to inflict unacceptable damage on any adversary. This capacity seems to underpin all the above assumptions.
- **New Directions for Deterrence: Development of a Substrategic Role for Strategic Systems.** As Great Britain enters a new world order, she is adapting her most advanced strategic deterrent—the Trident II ballistic missile nuclear submarine (SSBN)—to meet the challenge of substrategic threats posed by such rogue powers as Saddam Hussein's Iraq, Iran, or North Korea, among others.

The evolution of Britain's nuclear deterrence doctrine is, therefore, the initial focus of this paper. In section II, attention is given to examining how Britain forged the instruments of deterrence. This inquiry treats the use of secrecy as strategy and, following what I have termed the Thucydidean paradigm, Britain's pursuit of dissimulation as statecraft. As section II examines policy management, Britain's seizure of the opportunity to exploit her possession of nuclear weapons for explicit political-strategic advantage is also explored.

Here, Britain's utilization of the power inherent in an independent nuclear deterrent, *instrumentally*, to exert control over United States strategic policy was an example of successful policy management and statecraft.

Having treated deterrence doctrine, the modalities of policy, and policy management, attention is then devoted to Britain's deterrence systems and their generational development, from the V-Bombers to the strategic nuclear submarines, Polaris and Trident. Of some importance in this evolution was the extensive British effort to develop a redesigned warhead for the Polaris missile. Chevaline was the fruit of that effort, providing an extended life span for Britain's aging Polaris fleet in the 1980s and early 1990s.

This paper concludes with an assessment of the future of British nuclear deterrence in terms of Britain's objectives as she attempts to shape and in turn be shaped by the new world order upon which the international system is entering, now that the Cold War is over. Here, the enduring nature of the Anglo-American special relationship, as it has applied to nuclear weapons, is examined. A basic premise and theme of this study is that the enduring nature of this special relationship, in the face of American ambivalence, and even opposition, is testimony to the triumph of British policy management, statecraft, and ingenuity in weapons engineering. A proper understanding of this highly complex and yet public relationship will provide some insight into what I have termed the "Physics and Metaphysics of Deterrence."

Acknowledgements

The present inquiry evolved out of my interests in British nuclear deterrence and in the modalities or structures through which high policy or statecraft is conducted. An early version of this work was completed in 1982. The manuscript was revised in 1988 and presented as a Paper at the International Studies Association Convention, held at the University of London, United Kingdom, March-April 1989. I have since completely restructured and refocused the earlier work, taking into account the collapse of the Soviet Union, the end of the Cold War, and the dawn of a new world order.

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At this time, it is perhaps well to state that all errors of omission and commission rest with the writer and no one else.

The views expressed in this article are those of the author and do not reflect the official policy or position of the Department of Defense or other agencies of the U.S. government.

II

The Evolution of a Doctrine

First Principles

THE BRITISH NUCLEAR DETERRENT EVOLVED out of a commitment to first principles, followed by single-minded devotion to policy execution. In this connection, we are reminded that "Great Britain is one of the few powers of the modern age which has developed viable defense plans against unspecified antagonists."[5] That is to say, "her insular situation has permitted planning not against individual foes, but against functional threats: To maritime supremacy, to the Mediterranean-Middle East, to British home security."[6] In so doing, Britain faithfully adhered to first principles, which have governed her foreign policy for several centuries.

It fell to Winston Churchill to articulate those principles, in unusually explicit fashion. Speaking privately to the Conservative Members Committee on Foreign Affairs at the end of March 1936, Churchill advised:

> For four hundred years the foreign policy of England has been to oppose the strongest, most aggressive, most dominating Power on the Continent, and particularly to prevent the Low Countries falling into the hands of such a Power. Viewed in the light of history, these four centuries of consistent purpose amid so many changes of names and facts, of circumstances and conditions, must rank as one of the most remarkable episodes which the records of any race, nation, state, or people can show. Moreover, on all occasions England took the more difficult course . . . joined with the less strong Powers, made a combination among them, and thus defeated and frustrated the Continental military tyrant

> *whoever he was, whatever nation he led. . . .* Here is the wonderful unconscious tradition of British foreign policy. All our thoughts rest in that tradition today. I know of nothing which has occurred to alter or weaken the justice, wisdom, valor, and prudence upon which our ancestors acted. I know of nothing that has happened to human nature which in the slightest degree alters the validity of their conclusions. I know of nothing in military, political, economic, or scientific fact which makes me feel that we might not, or cannot, march along the same road. I venture to put this very general proposition before you because it seems to me that if it is accepted, everything else becomes much more simple.
>
> *Observe that the policy of England takes no account of which nation it is that seeks the overlordship of Europe.* The question is not whether it is Spain, or the French Monarchy, or the French Empire, or the German Empire, or the Hitler regime. *It has nothing to do with rulers or nations; it is concerned solely with whoever is the strongest or the potentially dominating tyrant. . . . It is a law of public policy which we are following*, and not a mere expedient dictated by accidental circumstances, or likes and dislikes, or any other sentiment.[7]

The general principle defining British foreign policy therefore explains why, with respect to the development of an atomic weapon, "the original decisions were unrelated to any specific foreign enemy. The bomb was wanted not to defeat an opponent but for a series of unspecified future contingencies."[8] In that sense, then, Britain became "the first nation to develop the [nuclear] weapon as a long-range strategic asset, unrelated to dangers posed by the overt hostility of a specific opponent."[9]

"Britain had been the midwife of this bomb. If it had not been for the brilliant scientific work done in Britain in the early part of the war, by refugee scientists from Europe and by British scientists, the Second World War would almost certainly have ended before an atomic bomb was dropped. It had been the cogency and clarity of the British Maud Report in 1941 which had persuaded the Americans of the practical possibility of an atomic bomb and the urgency of making one."[10] Later, after American entry into the war, there was close collaboration with Britain on the development of an atomic bomb. For her part, in line with the first principle of foreign policy alluded to above, Great Britain was determined to produce her own atomic bombs after the war was over.

Clear evidence on this point exists. Sir James Chadwick, Britain's greatest living nuclear physicist, informed General Leslie Groves, Director of the Manhattan Project "during the war that Britain would go in for large-scale atomic production after the war."[11] Also, in her official history of the United Kingdom Atomic Energy Authority (UKAEA), Margaret Gowing provides

rather explicit testimony on the cosmic power which this first principle held for British decision makers as the war ended. She writes:

> The British decision to make an atomic bomb had "emerged" from a body of general assumptions. It had not been a response to an immediate military threat but rather something fundamentalist and almost instinctive—a feeling that Britain must possess so climacteric a weapon in order to deter an atomically armed enemy, a feeling that Britain as a great power must acquire all major new weapons, a feeling that atomic weapons were a manifestation of the scientific and technological superiority on which Britain's strength, so deficient if measured in sheer number of men, must depend. A bomb would not be ready in any case for five years, so that the decision was of the variety that was impossible *not* to take rather than of the type that must be taken for urgent and immediate purposes.[12]

British nuclear deterrence doctrine, then, had emerged out of a core first principle: the assumption that in a world of sovereign nation-states competing for advantage—and notwithstanding prevailing alliances—there were, to paraphrase Lord Palmerston, no permanent friends and no permanent enemies, only permanent *interests*.

Independent Standing

Britain's determination to preserve the independent nature of her strategic deterrent was thus rooted in first principles and was calculated to free her from dependence on external sources. These factors, rather than any political differences with the United States over the sharing of nuclear weapons technology, appear to have been decisive factors in the decision to seek an independent atomic deterrent for Britain. In any event, the British decision to begin development of an atomic bomb "had not been taken as a result of the breakdown in 1946 of Anglo-American atomic cooperation. The decision to produce fissile material in the United Kingdom had been taken *before* this breakdown *and was regarded as non-negotiable in any circumstances*."[13] What drove the policy, rather, was the fundamental consideration that in a world of sovereign nation-states, Anglo-American interests were not necessarily identical, not necessarily parallel, not necessarily convergent. Therefore, with respect to Britain's quest for an independent nuclear deterrent, "some elements of British policy have carried the suppressed premise that there might develop a divergence of strategic interest between America and Britain. In fact, this might be called the premise behind the whole of the British advanced-weapons programme, from

Attlee's first decision to build atomic bombs."[14] Speaking at a secret and specially convened Ministerial Committee of the Cabinet on 8 January 1947, Prime Minister Clement Attlee's Foreign Secretary, Ernest Bevin, "said it was important that Britain should press on with the study of all aspects of atomic energy. 'We could not afford to acquiesce in an American monopoly of this new development.' "[15]

Even at the height of the Cold War, reliance on the nuclear umbrella provided by the United States was not a popular concept within the Royal Air Force. Sir John Slessor, Chief of the Air Staff, again took up Bevin's theme in a 1954 BBC broadcast: "The bomber is the primary agent of air mastery. If we want to remain a first class power we cannot possibly leave to an ally, however staunch and loyal, the monopoly of the instrument of such decisive importance in these massive issues of war and peace."[16] Slessor's views were sanctioned by Arthur Henderson, a "respected former Secretary of State for Air." During one of the rare parliamentary debates on creation of the British strategic nuclear deterrent—the context was the debate over the Air Estimates for 1954—Henderson warned: "I do not think that we should put all our bombing eggs into the copious American basket."[17] Henderson's socialist colleague, John Strachey, Opposition Spokesman on Defence, concurred, supporting the Churchill government's proposed policy as well as the delivery system for atomic bombs. The strategic bomber, he declared, was the contemporary equivalent of the *Dreadnought* battleship and consequently the "essential weapon for this island."[18] A core concern during this period was that in the event of war Britain might have a different set of targeting priorities than the United States. As Prime Minister Sir Winston Churchill put it in a 1955 parliamentary debate:

> Unless we can make a contribution of our own . . . we cannot be sure that in an emergency the resources of other powers would be planned exactly as we would wish, or that the targets which would threaten us most would be given what we consider the necessary priority in the first few hours. These targets might be of such cardinal importance that it would really be a matter of life and death for us.[19]

Consequently, Bomber Command, "like SAC, developed its nuclear bomber capability separately from NATO force structure planning."[20] Determined to play her role in NATO, Britain nevertheless retained for herself at the same time a nuclear deterrent capability *outside* the alliance and, in particular, *independent* of U.S. control. Churchill's focus on the necessity for an independent nuclear deterrent in such primordial terms proved to be a recurrent theme in British doctrinal justification. Prime Minister Harold Macmillan, for example, advised

the House of Commons in 1963 that Britain "'should be in a position to make [its] own decision without fear of nuclear blackmail' and, should the 'necessity arise, to make its *independent* decisions on issues vital to her life.'. . ."[21] That such concerns were contractually articulated and secured was revealed in the exchange of letters between Prime Minister Margaret Thatcher and President Jimmy Carter, consummating the Trident submarine sale on 10 July 1980. Item number three of Thatcher's letter contained the relevant caveat:

> The successor to the Polaris force will be assigned to the North Atlantic Treaty Organization, like the Polaris force; *and except where the United Kingdom may decide that supreme national interests are at stake*, the successor force will be used for the purpose of international defense of the Western alliance in all circumstances.[22]

Mrs. Thatcher's single qualification, then, is not merely an escape clause for Britain's independent deterrent—it is its very *raison d'être*. Nothing else in the way of deterrence would do.

Nuclear independence thus satisfied Britain's need to define for herself the limits of strategic policy. The result of Britain's effort in this direction was the creation of a "second center of decision" in the Anglo-American strategic calculus.[23] Denis Healey, a Labour Minister of Defence, discussed the political and strategic implications, situationally: "If you are inside the alliance you increase the deterrent to the other side enormously if there is more than one centre of decision for the first use of nuclear weapons."[24] It fell to a successor Minister of Defence, a Conservative, Francis Pym, to take Healey's doctrinal principle to its logical geostrategic conclusion. Speaking in a rare parliamentary debate on strategic deterrence doctrine on 24 January 1980, Pym warned the Soviets against overt threats to Great Britain. The consequences would be most unfortunate for the Soviet Union:

> The nuclear decision would be no less agonizing for the United Kingdom than for the United States but it would be a decision of a separate and independent power and a power whose survival in freedom might be more directly and closely threatened by aggression in Europe than that of the United States.
>
> That was where the fact of having to face two decision-makers instead of one was of such significance. Soviet leaders would have to assess that there was a greater chance of one of them using its nuclear capability than if there were a single decision-maker across the Atlantic. The risk to the Soviet Union would be inescapably higher and less calculable.[25]

In that awful eventuality, Great Britain and the United States would not necessarily be working in tandem, but quite possibly as separate and independent actors. Hence the game would become ever more complex for Soviet ruling elites, who would find themselves at the mercy of a power calculus, horrifying in scope and dynamics. The threat posed by two allies acting in concert is merely arithmetical in nature; with separate and independent actors, operating apart, the threat posed relative to who might inflict what on whom, when, complicates the strategic calculus exponentially. Such is the concrete tribute paid to the inherent power of a strategic deterrent capable of operating against the Soviet Union on a basis independent of United States wishes or, if necessary, outside her control.

Declarations by the then leader of the Labour Party, Michael Foot, to discard Britain's independent deterrent should Labour return to power, again allowed policy makers the opportunity to profess their commitment to its continuance, as the following 1981 article from the London *Times* made clear:

> In the defense community there is a devotion to the idea of a British deterrent that goes deeper than mere reason would allow. It peeps through the lines in the dry language of White Papers and statements to Parliament and surfaces in private conversations. For example, when asked how the Ministry of Defence would respond to a Secretary of State who arrived with the intention of dismantling the deterrent, one experienced figure replied: "Every gun in the place would be turned on him."[26]

The level of devotion drew the following wry observation from the journalist, Peter Hennessy:

> I remarked to a veteran of the deterrent business how dedicated they seemed to their task. He replied: "Oh yes, they are so fanatical about it that, if all else failed, they would strap the Polaris missile tubes to the royal yacht as a way of keeping the thing going."[27]

This remark is highly evocative, if only because it taps primordial impulses. As Professor Lawrence Freedman observed in this connection, "The most compelling strategic rationale for a British nuclear force . . . has an appeal that is more primitive than intellectual, but is no less powerful for that."[28] In just this manner, Britain has signalled her continued commitment to staying in the nuclear game as an actor with independent strategic capability, regardless of the attendant sacrifices.

The Reliability of the United States

Aside from the independent standing that Britain sought, a secondary theme emerged to function as a prism through which British governments would view their nuclear relationship with the United States: the reliability of the United States in applying its atomic weapons in defense of Great Britain. The words of former Prime Minister Clement Attlee should be seen in this context. Attlee recalled in his memoirs:

> We had to hold up our position *vis-à-vis* the Americans. We couldn't allow ourselves to be wholly in their hands, and their position wasn't awfully clear always. . . . At that time, we had to bear in mind that there was always the possibility of their withdrawing and becoming isolationist once again. The manufacture of a British atom bomb was, therefore, at that stage essential to our defense. . . . At that time, although we were doing our best to make the Americans understand the realities of the European situation—the world situation—we couldn't be sure we'd succeed. In the end, we did. But we couldn't take risks with British security in the meantime. . . . We had to face the world as it was. We had to look to our defense—and to our industrial future. We could not agree that only America should have atomic energy."[29]

Subsequent events in the history of Anglo-American relations would supply the British with a series of "litmus tests" for American unreliability, notwithstanding the constancy of relations within the Atlantic alliance:

- The McMahon Act, 1946
- The Suez Crisis, 1956
- The Skybolt Missile Crisis and Nassau Conference, 1962-1963
  The non-delivery of Poseidon Missiles to Britain, 1967
- The provision of a nuclear "umbrella" for the defense of Western Europe

For Britain, these litmus tests would confirm that where Britain's most vital interests—as defined by Britain—were concerned, United States commitments had a limited liability. That is to say, in the cases considered, the U.S. attitude would prove to be at the very least, problematical; at most, hostile.

Litmus Test #1: The McMahon Act, 1946

The United States first undercut British aspirations for cooperation in the development of nuclear weapons when, in June 1946, the Truman administration published the "Baruch Plan." The Baruch Plan called for international control over atomic energy, just when Great Britain was hoping that the U.S. would honor her wartime commitments to continue nuclear collaboration with

Britain in the postwar years. Such hopes were to be dashed in August, when President Truman signed the McMahon Act, which prohibited the transfering to any other nation the scientific and technological information necessary to manufacture an atomic bomb. The penalties for violating this law were draconian: death or life imprisonment.[30]

For Britain, there could be no misinterpretation of the meaning of the McMahon Act. Both the substance of the Act itself and the political implications it raised signalled American intent insofar as postwar Anglo-American nuclear collaboration was concerned. President Harry Truman's 20 April 1946 letter to Prime Minister Attlee was particularly unambiguous:

> As to our entering at this time into an arrangement to assist the United Kingdom in building an atomic energy plant, I think it would be exceedingly unwise from the standpoint of the United Kingdom as well as the United States. . . .
>
> I would not want to have it said that on the morning following the issuance of our declaration to bring about international control we entered into a new agreement, the purpose of which was to have the United States furnish the information as to construction and operation of plants which would enable the United Kingdom to construct another atomic energy plant.[31]

Britain felt betrayed by the United States as a result of this legislation. While it is quite clear that Britain's decision to "go it alone" in the development of nuclear weapons was taken independent of the McMahon Act, there is no doubt that its enactment led Britain to the stark conclusion that earlier American promises in this sphere were unreliable.[32] Senator McMahon's contention to British ministers that he would have supported looser language in the Act, had he only known about the intimacy of Anglo-American wartime collaboration, added insult to injury. Professor Gowing noted in this connection that "immediately after the war" much information on the wartime nuclear collaboration with Britain was in fact passed to Congress.[33]

Overcoming feelings of political betrayal, the British turned to developing and deploying an atomic bomb unilaterally. Some in the British government believed it was beyond Britain's capability to develop such a weapon without recourse to the vast American technological and industrial base. Others ridiculed this fear as unwarranted. To the doubters, Sir James Chadwick posed this challenge:

> "Are we so helpless . . . that we can do nothing without the United States?" Christopher Hinton, the great engineer in charge of the industrial side of Britain's

postwar project, took the same line. Indeed, he said that the McMahon Act was a blessing because it would make the British think for themselves.[34]

Nevertheless, Britain's fear about American constancy remained: under what circumstances would America's atomic shield be activated for the defense of Great Britain? The way the British chose to address this question during the Cold War has revealed the doctrinal assumption that questions American reliability to act as Britain's nuclear shield. Thus, while British officials usually "refrain from hypotheses on the circumstances that might cause" the United States to withhold nuclear protection, on those occasions when they do become more explicit in their comments the underlying principles behind an independent British deterrent are elaborated.[35]

In the late 1940s and early 1950s, while the United States enjoyed a nuclear monopoly, British strategic planners speculated on the future vulnerability of the American mainland to Soviet nuclear attack. Their conclusion had important implications for Britain's own efforts at securing nuclear independence. Their assumption was "that, in future, Britain might not be able to rely on the U.S. nuclear threat against Soviet urban and industrial areas, which hitherto had been seen as the chief deterrent to Soviet adventurisms in Western Europe."[36] This justified, in doctrinal and operational terms, an independent effort by Britain, as indicated in this evaluation by British analysts in July 1954: "Retaliation does not provide a global defense, it can only defend those places that are completely integrated politically. When New York is vulnerable to attack, the United States will not use her strategic weapon in defense of London."[37]

This scenario was played to its logical and most explicit conclusion in a March 1955 analysis by British defense officials. For the United Kingdom it was "strategically unacceptable to rely entirely on the United States to provide the deterrent. Moreover, with the rapidly increasing yield of nuclear weapons it would become progressively more difficult for the United States to come to our aid if we alone were threatened in view of the consequences to her of such action."[38] This scenario was to be subjected to the test of reality not long after, in the Suez Crisis of 1956.

Litmus Test #2: The Suez Crisis, 1956

The crisis at Suez represented the decisive moment in the postwar period when the two allies, Great Britain and the United States, allowed their heretofore discreet adversarial relationship over politics, economics, and

nuclear weapons-sharing to burst forth into the public domain over a question of colonialism and national self-interest.[39] America's humiliation of Britain and France for their intervention in Egypt, and a studied ambivalence in the face of explicit British requests for collective security guarantees under the NATO Treaty was, for Britain, a traumatic economic-politico-strategic experience.

If the McMahon Act constituted the first practical application of a litmus test for reliability, then, in British eyes, the U.S. had clearly failed to pass muster. The 1956 Suez Crisis provided a second such test. Here again the United States was to fail. The U.S. had been the decisive factor in securing Britain's 1954 agreement to negotiate a withdrawal from the Suez Canal Zone, a major British Middle Eastern base containing seventy thousand British troops. The Anglo-Egyptian negotiations leading to the withdrawal agreement were often acrimonious, conducted amidst a guerrilla warfare campaign waged by Egypt against British occupation forces within the Suez Canal Zone. The U.S. earned British reproach for taking a decidedly pro-Egyptian position during the course of the negotiations. Foreign Secretary Anthony Eden vented his frustration at American behavior in 1954, declaring, "They want to replace us in Egypt. . . . they want to run the world."[40] The die was cast when, in July 1956, Gamal Abdel Nasser of Egypt nationalized the Suez Canal, a strategic artery for British commerce.

The crisis itself erupted in an Anglo-French-Israeli invasion of the Suez Canal Zone in October-November 1956. The crisis so severely strained Anglo-American relations that they appeared overtly hostile for a time. As the Anglo-French task force gathered in the Eastern Mediterranean for the planned invasion of Egypt, Vice-Admiral Sir Robin Durnford-Slater, Naval Task Force Commander, signalled on 31 October 1956: "[United States] Sixth Fleet are an embarrassment in my neighborhood. . . . We have already twice intercepted U.S. aircraft and there is constant danger of an incident."[41] On the morrow, Admiral Durnford-Slater reported to Sir Guy Grantham, Commander-in-Chief, Mediterranean, as follows: "Have been continually menaced during past eight hours by U.S. aircraft approaching low down as close as 4000 yards, and on two occasions flying over ships."[42] The Americans indeed appeared to be trying to impede if not frustrate Anglo-French operations; the American government, after all, vigorously opposed the covert Anglo-French-Israeli collusion and subsequent attack on Egypt. Thus, for example, Vice-Admiral Sir Manley Power, Commander Allied Carrier Force, wrote in his official report: "I considered it quite possible . . . that they were obstructing us on purpose as their aircraft flying in the area rendered our air warning virtually useless."[43]

On the American side, grim determination prevailed. The orders of Admiral Arleigh Burke, Chief of Naval Operations, to the United States Sixth Fleet were "to keep in close touch with the British and French 'to make sure we knew where they were and what they were doing.'"[44] Admiral Burke recalled for the John Foster Dulles Oral History Project at Princeton University his instructions to Admiral Charles R. "Cat" Brown, Commander, U.S. Sixth Fleet: "to 'go to sea with his bombs up, ready to fight anything.' 'Cat' Brown sent back: 'Who's the enemy?' and I sent back, 'Don't take any guff from anybody.'" When Secretary of State John Foster Dulles asked Admiral Burke "whether there was a way the Sixth Fleet could be used to stop the operation," Admiral Burke replied, "'Mr. Secretary, there is only one way to stop them. We can stop them, but we will blast hell out of them.' [Dulles then asked,] 'Well, can't you stop them some other way?' [Admiral Burke's reply was instructive:] I said, 'No, if we're going to threaten . . . then you've got to be ready to shoot. . . . We can defeat them—the British and the French and the Egyptians and the Israelis—the whole goddamn works of them we can knock off, if you want. But that's the only way to do it.'"[45]

When Admiral Brown was asked by the British whether he could reposition his fleet to move away from its position between Port Said and the Anglo-French invasion armada, Admiral Brown replied that "he had taken up his position on direct orders from his Government."[46]

The actions of the U.S. Navy in thwarting British-French plans to depose the Nasser regime by force were not, therefore, inconsiderable. Looking back on the Suez war, General Sir Charles Keightley, Commander-in-Chief, Anglo-French forces, noted that:

> "It was the action of the U.S. which really defeated us in attaining our object!" The movements of the Sixth Fleet "endangered the whole of our relations with that country. . . ."[47]

But as it turned out, American inaction at the strategic level was to prove even more decisive for Britain—in a negative sense—than had been the actions of the Sixth Fleet in the Mediterranean.

Perhaps the most decisive point in the crisis was reached on 5 November 1956, when Marshal Nikolai A. Bulganin, premier of the Soviet Union, sent letters to Britain and France, warning them of the "dangerous consequences" of their "aggressive war in Egypt." The two allies had already bombed Egyptian airfields and were poised to invade the Suez Canal region. Ominously, the Soviet Union warned that London and Paris were already targeted by Soviet

rocket forces, and it concluded: "We are fully determined to crush the aggressors . . . through the use of force. We hope at this critical moment you will show prudence and draw corresponding conclusions from this."[48]

In the face of such provocation, Britain determined to invoke her membership in the NATO alliance by asking for U.S. support. As Terence Robertson has revealed, however:

> In Downing Street, at least, the facade of political steadiness was supported by the conviction that in the last analysis the United States would throw a protection umbrella of nuclear authority over its allies. Wisely, however, both governments asked Washington to confirm that this would be the case. A brief message from the State Department, however, shattered the facade and let disintegration set in.
>
> "The Government of the U.S.," said the message, "will respect its obligations under the North Atlantic Treaty arrangements. . . ."[49]

The U.S. response was not satisfactory, as Robertson made clear:

> Official exchanges at times of crisis are seldom what they seem. Beneath harmless exteriors there are explosive intents hidden from all but the few statesmen who may be aware of the background of events and the contexts in which they are drafted.[50]

In fact, "the message was deliberately designed to be interpreted in two ways: The U.S. guaranteed the security of Britain and France if they were attacked wherever Western interests were at stake; or the United States guarantee under NATO was valid only if there was an attack in Europe."[51] Seeking clarification of this ambivalence, Prime Minister Eden telephoned President Dwight Eisenhower but was not able to get through. Therefore, he "sent a personal message to the White House asking for immediate assurance that the United States would retaliate against the Soviet Union if Britain and France were attacked. While the long night of grand drama dragged on, the Prime Minister kept vigil at Downing Street, waiting for the reply that never came."[52]

At dawn, Anglo-French forces invaded Egypt. This was followed by a run on the pound sterling, instigated by the United States government itself, to force the invaders to cease fire and withdraw. They were forced to do so, and in humiliation. So wide and deep were the fissures in Anglo-American relations that even a generation later deep scars remained, as David Nunnerley has observed in his *President Kennedy and Britain*:

> The consequent vibrations on America's alliances are even today [i.e., 1972] being felt and the full price of Dulles is still to be completely paid. Suez highlighted the great dangers of Britain's dependence upon American power. For, despite Macmillan's efforts to continue as if nothing had ever happened, the Anglo-American relationship has never been quite the same since Suez. . . .[53]

It is often said that history is written by the victors. In the case of Suez 1956, the fact is that in American academic and political conventional wisdom the Suez Crisis is but a mere historical footnote: Britain was defeated and could henceforth no longer play an independent role on the world scene as a great power actor.[54] From the British perspective, however, Suez remains the decisive challenge of the postwar period, notwithstanding the deep divisions within British society over Eden's actions at the time, and notwithstanding the concurrence of much informed British opinion in the American view.

The actual postmortem on Suez by British leaders, however, led to radically different conclusions. The key lesson British leaders took away from Suez was not—as is commonly held—that henceforth Britain could no longer act contrary to American wishes in the world arena. Rather, in the Suez aftermath Britain concluded that the U.S. had once again proven herself an unreliable ally when it came to the protection of those interests Britain considered to be of the first magnitude. From the bitterness of their Suez experience, British leaders drew the lesson that henceforth challenges to the United States could never again be direct. That said, however, British leaders refused to surrender their sovereign right to take independent action in the future, should British interests be threatened again. In principle, after Suez the British determined that should their most vital interests again come under threat, they would act politically, diplomatically, and strategically to preclude being undercut or otherwise humiliated by the United States. The test would not come for a generation, but when it did, Britain's success in the Falklands War of 1982 fully vindicated the appreciation made by her leaders in the aftermath of the Suez debâcle. In the Falklands, Britain secured full U.S. support for her position despite strong pressures within the Reagan administration for a more neutral policy, or an even more radical one which affirmed the Monroe Doctrine and support for Argentina's seizure of Britain's Falkland Islands.[55] Britain would have neither. At the outset, she made clear to the U.S. that in this crisis she expected no less than complete support from her American ally.

Britain's determination to preserve her control over access to the Strait of Magellan was demonstrated by the conduct of her naval action during the crisis. The insertion of a British nuclear attack submarine (SSN), HMS *Conqueror*, into the vicinity of the Strait of Magellan and the subsequent sinking of the

Argentinean cruiser, *General Belgrano,* by HMS *Conqueror* were clear signals of that determination.

More ominously, Britain's alleged deployment of a Polaris ballistic missile-carrying submarine (SSBN) to the South Atlantic, as far as Ascension Island, likewise revealed the length to which Britain was prepared to go to prevail over any obstacles to total victory, and her own political vindication.[56]

The situation was readily appreciated by Argentina's foreign minister, Nicanor de Costa Mendez. In an address (evocative of the Thucydidean Melian Dialogue,) to a specially convened meeting of the OAS foreign ministers, Costa Mendez accused the U.S. of "turning its back on the region in order to assist a European state, also Anglo-Saxon, also an atomic power, also a world power, in the prosecution of its criminal, aggressive colonialist adventure."[57] Like the Melians of antiquity, Costa Mendez could only point to the injustice of the disparities of power between states and the concomitant lack of freedom of action accorded to pawns. Nevertheless, Costa Mendez accurately identified the source of Britain's success in the Falklands war and beyond: the possession of an independent thermonuclear capability, a currency with demonstrable deterrent value. That, along with an effective display of statecraft in Europe, within the British Commonwealth, and at the United Nations, secured for Britain full United States cooperation for the duration of the conflict.

Indeed, the linkage between Suez 1956 and the Falklands War was made explicit and absolute by Julian Amery, a Conservative Member of Parliament. As a leading imperialist within the Tory Party, Amery had adamantly opposed the British agreement in 1954 to withdraw British forces from the Suez Canal Zone. His parliamentary faction, termed the "Suez Rebels" for their opposition to Britain's agreement to pull out of the Canal Zone, strongly supported Prime Minister Eden's Suez policy two year later. But once Britain was forced to capitulate before American pressure to cease military operations against Egypt and withdraw her forces, Amery in particular castigated his government.

How different it was, one generation later, as Julian Amery basked in the warm glow of British victory in the Falklands, and with it, vindication. Amery shared his feelings in a BBC interview with Michael Charlton:

> After Suez there was a great streak of defeatism [which] entered into the hearts and minds of the British Civil Service establishment, which didn't enter into the gut feeling of the representatives of the British people in the House of Commons. . . . *After the terrible psychological shock of our defeat—I wouldn't use any other word—at Suez, it was an element of redemption.*[58]

The lessons Britain learned at Suez were hard, but learned all the same. Applied in the Falklands War, they secured American support for Britain in a crisis where America conceivably might not otherwise have been so forthcoming. Out of the bitterness of Suez, the Falklands conflict secured Britain concrete military, political, and strategic objectives. The Falklands was for Britain an example of superb policy management: Suez had been redeemed.

Suez taught the British a second lesson. The course of events surrounding the Suez Crisis legitimized and fully vindicated the whole notion of an independent nuclear deterrent. Britain had already deployed some atomic weapons at the time of Suez. In the wake of Suez, Britain tested her first hydrogen bomb, in May 1957. This thermonuclear test confirmed explicitly British intentions in the nuclear weapons sphere. Any presumption that Britain's ambitions in this realm had been destroyed at Suez would now be fully discredited: the thermonuclear fallout from the bomb test remained as the existential evidence of Britain's continuing commitment to possess nuclear weapons that she herself controlled.

In the wake of Suez, the new Macmillan government, which assumed power in January 1957, redirected British defense policy. Conventional forces were reduced, and renewed emphasis was placed on commando carrier operations, so necessary for the projection of conventional power overseas. With reference to the independent deterrent, recent research has concluded that what lay behind Britain's "new look" strategy carried out by the minister of defence, Duncan Sandys, was "above all . . . motivated by notions of economy and prestige."[59] Martin Navias has completed a thorough study of Sandys' policies and concluded that "it can be argued that throughout the period under study [i.e., 1955–1958], it appears that Sandy's [*sic*] primary concern was not strategy as much as economy."[60] Sandys' main objective, in this view, was to reduce military manpower. Accordingly, "Sandys believed that defense was consuming too great a proportion of the nation's wealth and that, as the struggle against the Soviet Union would be long and drawn out, only a healthy economy would be able to support a prolonged effort. Therefore solvency would have to be made the overriding goal. . . ."[61] This thesis is rather overdrawn, for it ignores or downplays doctrinal presumptions pertaining to nuclear weapons and the necessity for an independent nuclear capability.

A deeper reading of the evidence available would tend to confirm that Sandys was far more committed to the nurturing of an independent deterrent than he was to balanced budgets. In the course of a parliamentary debate (April 1957), Sandys would reveal the strategic vision informing his policy:

> So long as large American forces remain in Europe, and American bombers are based in Britain, it might be conceivably thought safe . . . to leave to the United States the sole responsibility for providing the nuclear deterrent. But, when they have developed the 5,000 mile intercontinental ballistic rocket, can we really be sure that every American Administration will go on looking at things in quite the same way?[62]

So dedicated, then, was Sandys to the preservation and enhancement of Britain's deterrent and to the notion as well of U.S. unreliability in the future that he was willing to scuttle Britain's conventional forces for the sake of building up this capability. The Vice Chief of the Royal Naval Staff, Sir William Davis, confirmed this assessment, noting that the minister of defence "did not have any strategical concept beyond the factor that in his opinion the atomic weapon was all important."[63]

If this observation reflected an accurate assessment of Duncan Sandys' appreciation of the strategic imperative for Britain, then the lessons of Suez were drawn with great clarity: the deterrent *must* remain independent, and the reliability of the U.S. to defend Britain's vital interests outside NATO could no longer be taken for granted.

The lessons of Suez 1956, therefore, had implications for the U.S. and the Soviet Union that would shape the strategic calculus for the next generation.

Litmus Test #3: The Skybolt and the Nassau Conference, 1962–1963

The Skybolt Missile Crisis. In the wake of the Suez Crisis, American reliability faced yet a third litmus test: the cancellation of an agreement to supply Britain with Skybolt missiles. Both crises were linked in the sense that Skybolt's "roots reach to the aftermath of Eden's disappearance from the scene" following the Suez imbroglio.[64] Skybolt was no minor crisis; "like the Suez debâcle of 1956, the crisis over Skybolt brought the Anglo-American alliance to its knees, producing as it did an almost complete breakdown in transatlantic communication. . . ."[65]

Since the Skybolt crisis and its subsequent resolution at Nassau capture the Anglo-American nuclear relationship in all its variegated dimensions, it is instructive to explore just how this affair raised the issue of American reliability in Britain.[66] The focus of this inquiry, therefore, is on how British statesmen defined the issues involved and how, in turn, those issues were defined by their American counterparts.

The historical background was set at Camp David in March 1960. There President Eisenhower agreed to supply Prime Minister Macmillan with a new

weapon: Skybolt. Skybolt was not a bomb but a nuclear air-to-ground missile, a stand-off weapon that could penetrate Soviet airspace in relative safety. The United States had approved its development only the month before.[67] In return, the British government made bases on the west coast of Scotland available to the U.S. Navy for its Polaris missile submarines. Harold Macmillan observed in his memoirs that the Camp David Agreement established two ironclad principles: in the first instance, "the arrangement about Skybolt was not merely a verbal understanding but a formal and binding agreement."[68] Secondly, Macmillan insisted that he had secured President Eisenhower's "firm, although not legal," assurance that should Skybolt be proved a failed weapon system, "we would be able to obtain in substitution the essential elements of Polaris to be fitted to submarines of our own construction."[69]

In the British view, the crisis over Skybolt arose when the United States violated the first principle and then refused to accede to the second, notwithstanding British insistence on a moral-legal-political obligation on the part of the United States to honor both commitments. The crisis, therefore, was played out on the British side, against the backdrop of these two principles—legality, and the honoring of a commitment made. Hence, the crisis was of a political and strategic nature, not a mere difference over technical flaws in the system. Consequently, the political context overshadowed any arguments by the Americans that Skybolt was not technically feasible or that its development costs were prohibitive.

The opposition to Skybolt on "technical" grounds was nevertheless extensive and bitter. Muted warnings over Skybolt's feasibility began to seep out in the closing days of the Eisenhower administration. These were duly noted by Sir Solly Zuckerman, Chief Scientific Advisor to the British Ministry of Defence, and passed on to Harold Watkinson, the defence minister. Zuckerman recalled in this connection:

> My message was simple. It boiled down to the fact that, while the American Administration fully recognized that the project had assumed enormous political importance in the UK, to President Eisenhower and the Joint Chiefs of Staff, Skybolt was no more than a very costly R&D program in which they had little faith.[70]

In his final defense budget, President Eisenhower assured Britain that he stood behind the Camp David Agreement, while he reduced the allocation for Skybolt in his final defense budget before leaving office.[71] While still in the U.S. Senate, John F. Kennedy had sponsored a report on Skybolt "that had been very discouraging."[72] Upon his assumption of office, President Kennedy's defense

secretary, Robert McNamara, reconsidered Skybolt and came to view the project as "proven to be a pile of junk, for which we were paying the whole bill. . . ."[73]

Skybolt's cancellation was therefore inevitable and could have been legitimately attributable to technical liabilities if the United States had immediately offered Britain a substitute system, in particular, Polaris. The fact that no such offer was made initially leads to the conclusion that Skybolt's cancellation was made on other than purely technical or cost grounds—that is, on political grounds.

The Skybolt dispute actually played against a backdrop of American opposition to national nuclear forces—independent nuclear deterrents. Since the French *force de frappe* was in its infancy at the time, American opposition was focused mainly on Britain's deterrent force. The opposition issued from the very top of the Kennedy administration in the person of the president himself. President Kennedy's personal example would guide the actions of his advisors throughout the controversy. To his Special Assistant for National Security Affairs, fellow Bostonian McGeorge Bundy, "Kennedy had privately dismissed Macmillan's cherished deterrent . . . as a 'political necessity but a piece of military foolishness. . . .'"[74]

At a January 1962 White House luncheon given for Julian Amery, who was Prime Minister Macmillan's son-in-law and now Minister for Air, Kennedy offered his guest a guarded warning on Skybolt's efficacy. Britain, the president would advised his guest, should not place much faith in Skybolt becoming an operational reality. Amery took umbrage at this presidential prediction and heatedly replied that "Skybolt must be made to work. . . . The political consequences on Anglo-American relations if Skybolt is canceled do not bear thinking about."[75] In this assessment, Amery was in full sync with the thinking of his father-in-law, the prime minister. Kennedy then sought to reassure Amery, and the crisis passed—for the moment.

Within the Kennedy administration, the focal point for opposition to national nuclear forces in general and to the Skybolt agreement in particular was Secretary of Defense Robert McNamara. Over at the State Department, George Ball, the Undersecretary, was perhaps the most articulate and outspoken opponent of the Anglo-American "special relationship" in nuclear weapons, a relationship restored by President Eisenhower in 1958. Ball was joined in this outlook by Walt W. Rostow, then head of the prestigious Policy Planning Staff, and by Robert R. Bowie, a State Department counselor.

Just several months after President Kennedy's warning to Julian Amery, the Skybolt issue began to move from a dispute over technical feasibility—an area

where honest differences could exist—to the politico-strategic. Speaking at a secret NATO Ministerial meeting in Athens, Greece, in early May 1962, Secretary McNamara attacked the whole notion of national nuclear forces. Macmillan's reaction to this speech underlined its political motives. Noted Macmillan, this "speech . . . although nominally 'secret' soon began to leak."[76] The leak, however, would not be stanched, for Secretary McNamara then went public. In a now famous address attacking independent nuclear forces, at Ann Arbor, Michigan, on 16 June 1962, McNamara insisted that "limited nuclear capabilities, operating independently, are dangerous, expensive, prone to obsolescence and lacking in credibility as a deterrent."[77] McNamara's tone was not only self-assured but strident, as he ridiculed the concept of an independent nuclear deterrent composed of "relatively weak national nuclear forces with enemy cities as their targets [as] not likely to perform even the function of deterrence."[78] Macmillan was outraged. He did not misinterpret McNamara's meaning or nuance, for there was nothing subtle about it. In delivering this speech, wrote Macmillan, McNamara "could hardly have done anything more calculated to upset both his French and his British allies. He put forward with equal vigour and clumsiness a powerful condemnation of all national nuclear forces, except, of course, those of the United States."[79]

Prime Minister Macmillan rejected McNamara's position and defined Great Britain's policy for President de Gaulle:

> Britain already had a considerable nuclear force, and we were determined to preserve this as "independent" in the sense that ultimate control would be under a British Government. I felt that this force was important for Britain, just as a similar force would be for France. It was a symbol of independence and showed that we were not just satellites or clients of America.[80]

McNamara's Ann Arbor speech therefore created a crisis of confidence once again between Britain and the United States. In his diary, Macmillan would confide:

> McNamara's foolish speech about nuclear arms has enraged the French and put us in a difficulty. . . . It's rather sad, because the Americans (who are naive and inexperienced) are up against centuries of diplomatic skill and finesse.[81]

If George Ball's recollection is accurate, then it was only on 8 November 1962 that Secretary McNamara explicitly warned the British Ambassador, Sir

David Ormsby-Gore, that Skybolt would be cancelled. Ball framed the decision in the context of American, and not British, strategic interests:

> Skybolt had become for us a marginal, not an essential part of our deterrent arsenal. Not so for the British, and herein lay the problem, for a point had been reached where our requirements and those of Great Britain diverged. The Skybolt was for us an unneeded supplement to already adequate existing programs; for Great Britain, it was her only means to keep an independent nuclear capability.[82]

National nuclear forces thus posed a serious dilemma for the Americans. In an address delivered to NATO parliamentarians in Paris on 16 November 1962, Ball proposed an American solution: introduction of "a genuine multilateral medium-range ballistic missile force, fully coordinated with the other relevant forces of NATO . . . but he was far less enthusiastic about a purely British deterrent."[83] U.S. policy therefore chose "multilateralism" as the antidote of choice against the dangerous notion of national nuclear forces. Skybolt was to be the instrumentality through which the American government chose to work to weaken, if not destroy, the institutionalization of national nuclear forces outside multilateral (i.e., U.S.) control.

Less than one month later, the tension in Anglo-American relations reached new heights in the wake of a speech delivered at the United States Military Academy at West Point by former Secretary of State Dean Acheson. Speaking on 5 December 1962, and with a candor that bordered on the brutal, Acheson sought to invalidate the singularity of the Anglo-American special relationship (including the nuclear weapons facet), by marginalizing the British contribution:

> Great Britain has lost an empire and has not yet found a role. The attempt to play a separate power role—that is, a role apart from Europe, a role based on a "special relationship" with the United States, a role based on being the head of a "Commonwealth" which has no political structure, or unity, or strength and enjoys a fragile and precocious economic relationship by means of the Sterling area and preferences in the British market—this role is about played out.[84]

Such an outburst from a highly respected American statesman must be juxtaposed with his reputation as an Anglophile in culture, manners, and dress. It should also be seen against the background of the recently concluded Cuban Missile Crisis in which Acheson had played a role as a roving ambassador. Acheson visited Macmillan in London in that capacity. Therefore, in making his remarks, Acheson should be considered a not-so-private citizen; indeed, the

venue for those remarks would also tend to give them an official tint. Examined in this context, along with McNamara's Ann Arbor speech, Ball's NATO speech the previous month, and President Kennedy's own position, Dean Acheson's remarks at West Point provoked dismay, alarm, and bitterness in the British government, especially for the Queen's First Minister.

Macmillan was outraged, particularly at the publicity the speech generated. He observed in this connection that "no doubt [Acheson's] argument could have been made discreetly and without offense."[85] The depth of the offense may be judged from the assessment of it, made by Macmillan in a letter to his old colleague of the Second World War, Lord Chandos:

> I have only seen the various Press reports of this speech. If those are accurate, in so far as he appeared to denigrate the resolution and will of Britain and the British people, Mr. Acheson has fallen into an error which has been made by quite a lot of people in the course of the last four hundred years, including Philip of Spain, Louis XIV, Napoleon, the Kaiser and Hitler. . . .[86]

Macmillan's analogies were an indication not only of Britain's definition of the situation but also his desperation at the prospect of being denied a proper nuclear deterrent to fill the gap between the time the V-Bombers were phased out of service and the deployment of whatever second-generation deterrent was eventually chosen.[87] Arraigning Britain's closest ally in the dock alongside her most treacherous historical adversaries was probably unfair if not absurd. However, Macmillan, like Churchill before him, was quick to place Great Britain's interest before sentimentality—and in the instant case, sentiment had already lost its luster. Always quick to assess a situation, Macmillan now explicitly defined the Skybolt affair in political terms, as follows:

> In view of the implication of McNamara's speech in Michigan and again at a NATO meeting in Paris in December it was difficult to suppress the suspicion that the failure of Skybolt might be welcomed in some American quarters as a means of forcing Britain out of the nuclear club.[88]

The Nassau Conference. The Skybolt missile crisis was ultimately resolved at a summit conference held at Nassau in Bermuda from 18 to 21 December 1962. There President Kennedy and Prime Minister Macmillan met and reached a settlement. As he prepared to depart for Nassau, Macmillan conveyed in a diary entry the sense of grave crisis that was impending: "There will be a great row in both countries. And it means a great battle with President Kennedy next week."[89] And to his ambassador in Washington, Macmillan sent instructions

on how the Nassau Conference was to be handled. Despite the fact that the conference had been planned many months earlier and an agenda prepared in advance, Macmillan now sought to focus exclusively on Skybolt. The gravity of his concern was conveyed in his instructions to Ambassador Ormsby-Gore:

> My difficulty is that if we cannot reach an agreement on a realistic means of maintaining the British independent deterrent, all the other questions may only justify perfunctory discussion, since an "agonizing reappraisal" of all our foreign and defense policy will be required. . . .[90]

Just before his departure, Macmillan traveled to France, at Rambouillet, where he held talks with President de Gaulle. Macmillan sought to impress upon de Gaulle Great Britain's determination to maintain her independent deterrent, warning:

> I would explain to the President that, if Skybolt broke down, I must have an adequate replacement from the United States, such as Polaris—otherwise Britain would have to develop her own system, whether submarine or aerial, in spite of the cost.[91]

Perhaps Macmillan wished his warning to be transmitted to the Kennedy administration via a "back channel" prior to the conference. Nevertheless, when the British delegation arrived at Nassau on 19 December 1962, they were "in a not very friendly mood; in fact . . . they were 'the angriest' British delegation seen at any Anglo-American summit since the war."[92] George Ball recalled the ambience: the band welcoming President Kennedy to the Bahamas greeted him with a rendition of "Oh, Don't Deceive me!"[93] A lack of trust was definitely palpable.

Macmillan set the tone for the conference at the initial meeting of both delegations. There he recalled Britain's historic role in the development of the atomic bomb. That role, Macmillan reminded his listeners, was no secret: "European countries knew perfectly well that Britain had been first in the field and might be said, up to the end of the War, to have had an equal share in the equity with America."[94] The prime minister then issued an explicit warning that the continued integrity of Anglo-American relations stood or fell on the issue of a British independent nuclear deterrent:

> If the difficulties arising from the development of Skybolt were used, or seemed to be used, as a method of forcing Britain out of an independent nuclear capacity, the results would be very serious indeed. It would be deeply resented both by those of our people who favored an independent nuclear capability and by those

> who opposed it. It would offend the sense of national pride and would be resisted by every means in our power.[95]

Startled by Macmillan's tone, President Kennedy nevertheless "referred to the difficulty for America in letting us [i.e., the U.K.] change to Polaris . . . that the change from Skybolt to Polaris was one of principle to which they were not even honorably committed."[96] Instead, Kennedy proposed that Britain share 50 percent of any further development costs of Skybolt. Macmillan now saw his opening and turned Kennedy's proposal into a test of American credibility and reliability:

> I observed that although the proposed British marriage with Skybolt was not exactly a shotgun wedding, the virginity of the lady must now be regarded as doubtful. We are being asked to spend hundreds of millions of dollars upon a weapon on which the President's own authorities are casting doubts, both publicly and privately.[97]

Macmillan then hoisted Kennedy's strategy on its very own petard, the discrediting of Skybolt. Macmillan used previous American arguments against further development of Skybolt to press for Polaris as the only suitable replacement to meet Britain's strategic requirements over the next generation. Wrote Macmillan:

> As the argument proceeded, the Americans found themselves in the difficulty that they were resting upon two conflicting arguments. On the one side they said Skybolt would fail; on the other, they said that it could be made to work but they did not need it because of the development of Polaris. They were prepared to sell it to us—on terms.[98]

Now that Kennedy had rendered Skybolt operationally dead, Macmillan would demand Polaris. If no agreement could be reached on Polaris, then the whole future of Anglo-American relations would be in question; "We have gone a long way in this nuclear business . . . but if we cannot agree, let us not patch up a compromise. Let us agree to part as friends."[99] But Macmillan left the President in no doubt about the future of the alliance should a Polaris agreement remain unfulfilled:

> "It is possible . . . that my Government will fall on this issue. . . . If the United States fails to help Britain . . . public opinion, fickle as it is, will inevitably become anti-American." This would lead, [Macmillan] argued, to the assumption of power of a more neutralist group from within either of the two major political

> parties. Indeed Macmillan hinted that it was not inconceivable that his own party might accept an anti-American platform in order to retain power.[100]

President Kennedy was now thoroughly alarmed by the possibility of a political-diplomatic-strategic split with Britain. He moved to defuse the crisis with what appeared to be a compromise solution but which was actually a defeat for his strategy to eviscerate the special relationship in nuclear weapons with the United Kingdom. The compromise included the American demand that British forces be included in a NATO multilateral nuclear force. The single caveat of this was included in Paragraph 9 of the Statement on Nuclear Defence Systems, 21 December 1962: "The Prime Minister made it clear that except where Her Majesty's Government may decide that supreme national interests are at stake," British strategic nuclear forces would be available for the defense of the Western Alliance.[101]

For Harold Macmillan, the Nassau Conference was a great triumph of British statesmanship and policy management. Macmillan outlined in his diary what he had achieved at Nassau:

> Broadly, I have agreed to make our present bomber force (or part of it) and our Polaris force (when it comes) a NATO force for general purposes. But I have reserved absolutely the right of H.M.G. to use it *independently* "for supreme national interest."
>
> These phrases will be argued and counter-argued. But they represent a genuine attempt (which Americans finally accepted) to make a proper contribution to *interdependent* defense, while retaining the ultimate rights of a sovereign state. This accepts the facts of life as they are.[102]

Macmillan's efforts earned for him his Queen's grateful thanks. "The Queen congratulated him for having demonstrated that Britain still counted for a great deal, and could hold her head high. Her Majesty was right."[103] Macmillan had secured for Britain extremely generous terms for the Polaris agreement. Her purchase of Polaris missiles from the United States would cost less than 2 percent of her defense budget.[104] Macmillan refused Secretary McNamara's demand that Britain contribute to the research and development costs of Polaris, agreeing only to "add five per cent to the retail cost" of the end-item.[105] For his stand on the matter, McNamara earned Macmillan's censure as "very grasping."[106] Indeed, Dennis Healey, a future minister of defence in a Labour government headed by Harold Wilson, supported Britain's continuing role as

an independent nuclear power in part in reaction to an American determination that it should be ended once and for all:

> I'm bound to say that one factor which strengthened my support for keeping the things going was that McNamara, and some Americans, were so anxious we should get rid of it.[107]

The Nassau Conference ended on 21 December 1962. The next day, as it happened, Skybolt was successfully test-fired on the sixth attempt. The announcement was made by Secretary McNamara, but it came only after British Defence Minister Peter Thorneycroft had returned to London from Nassau to announce Skybolt's failure as a weapon system. While Macmillan might have been expected to suffer only embarrassment from this indiscretion, Kennedy was beside himself with fury.

For President Kennedy, the true lesson of Skybolt might have become apparent only then. For it was only then that Kennedy realized that the price for delivering Skybolt to Britain might actually have been cheaper for the United States in the long run than the settlement reached in Nassau. President Kennedy would observe to Theodore Sorenson, his White House Counsel, that "it might well be concluded that . . . we had an obligation to provide an alternative" to Skybolt.[108] It is perhaps of some significance that the President did not suggest Polaris as that alternative. The lesson the American government would learn from the Skybolt crisis was that by taking the stand it had, the United States was forced to settle for a policy outcome it did not desire and which all its efforts had been directed at defeating. But for the United States it was too late to go back: America would have to live with the consequences of Nassau. Great Britain now had her second-generation nuclear deterrent and enjoyed a continuing special relationship with the United States in affirmation of that fact. Britain's "separate power role," contrary to Acheson's characterization, was still very much alive and would remain so in the future.

For Great Britain, there remained a residue of ill will, notwithstanding her policy triumph. In the opinion of Britain's prime minister, in the aftermath of the crisis American reliability remained problematic. The Americans, he noted, "have handled things in such a way as to make many of us feel very suspicious."[109] In any event, the effects of the Skybolt Crisis "lesson" were to be lasting.

Skybolt Redux: The Poseidon Affair. The United States decision in the 1960s to advance her submarine-launched ballistic missile (SLBM) force into

the next generation once again posed a dilemma for Britain. This next generation, Poseidon, was a multiple independently targeted re-entry vehicle (MIRV). The product of advanced technology, Poseidon was designed to be a counterforce weapon, one that could neutralize Soviet anti-ballistic missile (ABM) defenses by virtue of the independent targetability of each of its multiple warheads.

In the wake of the U.S. announcement to deploy Poseidon, the dilemma facing British decision makers was this: should they opt for the new Poseidon and thus keep pace in qualitative terms, at least, with the U.S., or see the latter move ahead to a more advanced seaborne missile system just as Britain's own first Polaris submarine, HMS *Resolution*, was entering service? As it turned out, Britain never acquired Poseidon, and it would be almost a generation before she acquired access to a MIRV system in the Trident submarine agreement with the United States. Nevertheless, it should be noted, Britain's refusal of Poseidon was, for the most part, involuntary. Despite Dr. Henry Kissinger's November 1979 BBC interview with Michael Charlton in which Kissinger recalled his own urging of Poseidon on the British while he was Secretary of State, another view holds that even though Kissinger at that time "did not refuse Britain *Poseidon*," neither "did he press it on them. Instead, he spoke at some length on the obstacles to this purchase. SALT, he explained, was the least of these. The arms-control negotiations were beginning to move into qualitative restraints on offensive arms, and the acquisition by Britain of the MIRVed *Poseidon* would cause some difficulties. . . . The problem, he suggested, was more that Congress was in an awkward mood on this sort of issue and was likely to refuse to countenance the transfer of this particularly advanced piece of technology."[110] Furthermore, it would appear that "from 1966 on a diminution of interest on the American side could be detected. Admiral Hyman Rickover, in charge of America's sea-based deterrent, wanted to limit the information exchanges" then prevailing between the U.S. and Britain.[111]

If we are to accept this contention, then, for Britain, acceptance of Poseidon had never been a live option, regardless of her real wishes or interests in the matter. Rather, the withholding of Poseidon from Britain was an act of policy by the United States government, Kissinger's "congressional" escape clause notwithstanding.[112]

Thus cut off, and recalling the covert atomic development program under Attlee, Britain at great expense secretly designed, developed, and deployed a replacement for the Polaris missile, the Chevaline. The Chevaline Program had as its objective a redesigned warhead for the Polaris missile. Chevaline's development, announced in January 1980, reconfirmed Britain's position as a

key player in the nuclear arena. The *Financial Times* Science Editor, David Fishlock, observed that Chevaline's development "has now brought Britain abreast of the latest U.S. developments in warheads for ballistic missiles."[113] This achievement was crucial for the strategic assets Britain was able to secure from the United States as a result. Lawrence Freedman has observed the dynamics of this process and concluded that:

> If Britain fell behind in nuclear research then its ability to enter into or sustain *reciprocal*, cooperative relationships with other nations would be impaired. This was relevant . . . to the continuation of the existing close ties with the United States. . . .[114]

Thus Britain's special relationship in nuclear weapons with the United States may be viewed as a function of British technical expertise in the fabrication of strategic-caliber weaponry. That relationship could just as well be as reciprocal as one given to singularity. In this connection, Britain was invited to participate in the U.S. Strategic Defense Initiative Program—"Star Wars." The U.S. government in 1985 gave assurances to the British on technology transfer of Star Wars research products. Both governments agreed on eighteen areas of technology "in which Britain is considered particularly well qualified" to participate in SDI research. Some of these are of interest, e.g., ballistic missile command, control, and communications (i.e., C^3); laser radar, vibrometry and imaging; sensors; interceptor research; radar research; countermeasures; laser, particle beam, and radio frequency lethality, vulnerability, and hardening.[115]

The British minister of defence at the time, Michael Heseltine, declared that while the missile system for the Trident was already developed (Britain would manufacture her own warheads), "in the case of the SDI program . . . the U.S. came to Britain and asked if the British would participate."[116]

This request was obviously based on Britain's demonstrated capability. Indeed, by 1989 British Ministry of Defence scientists were convinced that "Britain could develop a Star Wars antiballistic missile defense system based on existing weapons which would be capable of protecting British nuclear bases" from attack.[117]

Thus, the special relationship itself emerges as a functional component of British strategic deterrence doctrine. The paradox here, of course, was the fact that the reciprocity achieved in Star Wars was achieved out of the consequences resulting from the American denial of the Poseidon system to Britain in the first

place. The Poseidon affair was, in a sense, Skybolt redux, but with an even larger payoff for Britain:

- Chevaline
- Star Wars participation
- Acquisition of the Trident System

The final paradox was the utilization of Chevaline's successful development as the chief strategic asset and bargaining counter in the British bid to acquire Trident, the most advanced seaborne MIRV system yet produced by the United States. Unlike Britain in its prior experience with Poseidon, the U.S. was forced by the capability inherent in Chevaline to heed Britain's call for access to the Trident II ballistic missile system.[118] Nor could the Americans default on the promised delivery of Trident, as they had previously on Skybolt, or obfuscate, as with Poseidon. Past history was obviously very much on the minds of "senior Ministry of Defence sources," as reported in *The Times* (London):

> The sources were adamant that if the U.S. decided to develop a new missile and no longer wanted to deploy Trident II, "that eventuality is covered by the agreement." They said: "There is no question of the U.S. pulling the rug from under our feet."[119]

It is just here that once again the question of American reliability was injected into the picture by British officials. The American decision to supply Britain with Trident, rather than allaying suspicions as might have been expected, only intensified British "worries about the future reliability of the United States as an ally."[120] Prime Minister Thatcher's caveat in the exchange of letters with President Carter of 10 July 1980, it will be recalled, was highly revealing, echoing as it did Harold Macmillan's Nassau declaration. Mrs. Thatcher declared that the Trident strategic missile would likewise be assigned to NATO, "except where the United Kingdom may decide that supreme national interests are at stake."[121] In that situation, Britain might have to rely on its own devices without reference to the United States, or for that matter anyone else. President Kennedy's admission shortly after Nassau is therefore highly revealing in this connection: "The British will have their deterrent. It will be independent in moments of great national peril, which is really the only time you consider using nuclear weapons anyway."[122] So much for the NATO gloss placed on the Statement of Use by Prime Ministers Thatcher and Macmillan; their caveat told the tale. However, even the gloss was too much for John Nott, minister of defence in the Thatcher Government, as he discarded it in favor of a bold statement of British sovereign independence with reference to the use of nuclear weapons:

> I'm not buying it [the Trident D-5] for NATO. In the last resort we must be able to stand alone. I'm greatly in favor of the Alliance, but you can never tell, and I can't be sure that the Alliance will be as healthy in 20 years' time as it is today.[123]

John Nott's feelings were shared by his Cabinet colleagues, as recalled by Peter Hennessy in *The Times*:

> The five ministers who sat on Mrs. Thatcher's Polaris replacement committee, MISC 7, are of an age where "standing alone" in 1940 was a personal and formative experience.
>
> Is not their devotion to the deterrent, and the feeling of those of a similar background in the defense community, an instructive wish for insurance against a rerun of the Battle of Britain summer? For clever "boffins" applying radar and breaking the Luftwaffe's codes one can read "eggheads" at Aldermaston and communications experts in bunkers beneath the Chilterns, and for brave young men in Spitfires substitute youthful commanders in submarines lurking beneath the North Atlantic, as all that stands between a Britain bereft of allies and the enemy along the Channel ports.
>
> Whitehall would never resort to using the "national sovereignty" argument, unless it looked like losing the debate once and for all, for fear of upsetting the United States. But it was uncertainty about our allies in the future that lay behind the decision of MISC 7 on Trident as surely as it was the imperative guiding Mr. Attlee's Cabinet Committee when it decided to build the first British bomb in 1947.[124]

No wonder, then, that British leaders have been particularly worried about the reliability of the United States. During the Cold War, one area where American reliability was an issue of concern was that of nuclear reassurance for Britain and for Europe. This issue sparked British angst and a challenge to the United States. Even as the Cold War faded, American constancy was being tested at a substrategic level, with Western European nations demanding an American commitment to send troops to Bosnia, albeit in a peace-keeping capacity, not as an expeditionary force to wage war. Nevertheless, as the record attests, angst over the constancy of American commitment often became the occasion for revealing insights into British strategic doctrine and policy management.

Litmus Test #4: The Nuclear Umbrella for Europe

In evidence submitted to the Parliamentary Expenditure Committee by the Ministry of Defence in 1975, the independent nuclear deterrent was justified as "an element of insurance, and reassurance to our European allies, against any

weakening of the United States nuclear guarantee."[125] What was so striking about this assertion was the fact that just two years after formally joining the European Economic Community (EEC), Great Britain was explicitly asserting her intention to provide a nuclear umbrella for Western Europe should the United States ever suffer a loss of nerve or commitment. Here, then, the circumstances were clearly drawn:

> In the last resort, if the Alliance was to collapse, the possession of an independent strategic weapon provides the United Kingdom with the means of preserving national security by deterring large scale conventional or nuclear attack or of countering nuclear blackmail.[126]

In the final analysis, since such circumstances under the alliance system were contingent upon American intent, any formal doctrinal articulation on Britain's behalf "involved questioning the word and good faith of the United States."[127] Nevertheless, American reliability *was* questioned by Britain's leaders. In this case, the tocsin was sounded by Neville Trotter, a Conservative MP. A memorandum submitted to the Expenditure Committee by Trotter warned:

> With the Soviets now in a position of equality . . . it seems much less certain that U.S. President would be prepared to commit his country to the horrors of major nuclear attack if Britain rather than America was the subject of an initial nuclear assault. We must, therefore, continue to possess our own capability for nuclear retaliation.[128]

Trotter's admonition was reiterated by Geoffrey Pattie, MP, then Under-secretary of State for Defence in the Thatcher Government: "The readiness of the United States to defend continental Western Europe with nuclear weapons is now tempered by an American realization that the Soviet voice is as strong as their own. In short, the guarantee of U.S. nuclear protection . . . is no longer reliable."[129] Pattie's fears were not entirely without foundation, if remarks by former Secretary of State Henry Kissinger are to be believed. Kissinger spoke in Brussels at a conference entitled "NATO: The Next 30 Years," jointly sponsored by Georgetown University's Center for Strategic and International Studies and the Atlantic Institute. As reported in *The New York Times* for 3 September 1979, Kissinger admonished:

> "Don't you Europeans keep asking us to multiply assurances we cannot possibly mean and that if we do mean, we should not want to execute, and which if we execute, would destroy our civilization. . . ."

> "Massive assured destruction created a paradoxical world in which it is the liberal, humane and progressive country that is advocating the most blood-thirsty strategy." He [i.e., Kissinger] strongly implied that he believed a United States President would now decline to defend Europe by ordering such an assault against Russian cities at a time when the Soviet Union had the means to strike back at United States population centers in return.
>
> "Of course, the U.S. President will threaten massive destruction in a crisis, but will he do it?" Dr. Kissinger asked. "We must face the fact that it is absurd to base the strategy of the West on the credibility of mutual suicide."[130]

In Henry Kissinger's view, therefore, Western Europe—Britain included—might be expendable in a nuclear showdown. The United States, in the final analysis, might act to save herself, even if this meant offering Western Europe up as sacrifice. The gauntlet thrown at the Western alliance by Dr. Kissinger would appear to have been accepted by Geoffrey Pattie. Before accepting his initial responsibility in the Thatcher government as Minister for the Royal Air Force, Pattie wrote, as if in direct rebuttal to Kissinger:

> It is no more than a blinding glimpse of the obvious to say that a guarantee which is no longer automatic is no longer a guarantee and despite the presence of U.S. forces on the ground in Europe in no way can there now be said to be an American nuclear guarantee protecting Western Europe.[131]

If America's stewardship over the nuclear umbrella had become problematic, then Great Britain would accept the challenge. Mrs. Thatcher's predecessor, James Callaghan, had advised President Carter at the Guadeloupe Summit in January 1979 that "a U.K. nuclear capacity was important to Alliance cohesion at a time of growing German doubts about the American nuclear guarantee in an era of superpower parity."[132] As Callaghan would recall in his memoirs:

> . . . Britain had a responsibility not only for her own defense; we shared a responsibility for the defense of Europe. . . . It would be necessary to take into account not only Britain's security but also the extent to which Germany felt the need for reassurance.[133]

Britain's security interests, therefore, required her to provide a nuclear umbrella for Europe. The concurrence of the other Western European nations in that appreciation is a factor of some significance, since they appear to be reassured by British policy.

United States "Reliability" as Theme, Context, and Occasion: A Reconsideration

The conceptual place of American reliability in British deterrence doctrine has been explored at some length in this inquiry. As theme, context, and occasion for possession of an independent nuclear deterrent, reliability has served the British well in doctrinal and policy management terms.

Indeed, the doctrinal definition of United States "reliability" has considerably widened from the challenge posed by the passage of the McMahon Act of 1946 to the explicit references by Prime Minister Callaghan to the need of a British nuclear umbrella for the reassurance Europe so badly desired. Certainly, British fears in this direction may have been groundless. However, in the British view, those fears were genuine, hence doctrinally sound. The United States will have no choice but to live with the strategic implications of this British assessment, even if it means the possibility of an alternative design for European security over the horizon.

Perhaps it is well to consider this issue in a more basic context. When World War II ended, the United States enjoyed a monopoly on atomic weapons as well as a profound disinclination to share them with any other power, including Great Britain. The United States position may be understood in terms of a classical application of raw political power. The fifth century B.C. Greek historian, Thucydides, described the power calculus in his account of the Melian Dialogue: "Right, as the world goes, is in question only between equals in power, while the strong do what they can and the weak suffer what they must."[134]

Applied to the postwar world, the power calculus that drove American policymakers to "do what they can" to deny any further nuclear cooperation with the British was matched by a no less determined British compulsion, as the weaker power, to "suffer what they must," while at the same time trying to redress the imbalance at whatever cost. It was a dispute that in any case could not be avoided. Professor Margaret Gowing has captured the dynamics of the then prevailing power relationship with great accuracy:

> If the Anglo-American atomic agreements drafted early in 1946 had been endorsed they would in no way have altered the decision to produce plutonium, . . . It is conceivable that if the agreement had been signed and if henceforth Anglo-American relations had been bathed in sweetness and light, arrangements might have been made for the pooling of atomic weapons production. But in view of the actual American mood at this time, such a possibility is not worth even a cursory exploration. As it was, American atomic attitudes in

> this period hardened Britain's resolution not to be bullied out of the business and not to acquiesce in an American monopoly.[135]

American action and British reaction are thus understandable in terms of the Thucydidean paradigm, that it was the power calculus that defined the relations between states. It, rather than moral, ethical, or sentimental notions governed the definition of state interest and security on both sides. The United States could no more share her nuclear weapons with Great Britain than Great Britain could surrender her sovereign right to independently acquire nuclear weapons. The dynamics of the power relationships between states were starkly drawn in the historical reconstruction offered by Thucydides in the Melian Dialogue. In the Dialogue, which occurred as a brief incident in the epic twenty-seven year Peloponnesian War, the Athenian envoys would advise the doomed Melian satellite of Sparta of the brutal realities that made up power politics:

> And it is not as if we were the first to make this law, or to act upon it when made: We found it existing before us and shall leave it to exist for ever [*sic*] after us; all we do is to make use of it, knowing that you . . . and everybody else, having the same power as we have, would do the same as we do.[136]

Applied to our own time, American nuclear policy vis-à-vis Britain, has bred a generation of basic mistrust, notwithstanding the agreements and close cooperation in nuclear weapons research and development. The Anglo-American *modus vivendi*, the agreement of 1958 regarding "Cooperation on the Uses of Atomic Energy for Mutual Defense Purposes," and the Polaris and Trident agreements, do nothing to change the picture. This sense of United States unreliability was forged early and was sustained by subsequent policy actions. Such a perception, reinforced as it has been, has given to British nuclear deterrence doctrine a theme, a context, and occasion for policy management. While this topic remains delicate, it can by no means be ignored. In the meantime, underpinning all doctrinal considerations, there must be the maintenance of an assured destruction capability.

The Maintenance of Credibility

The credibility of any strategic nuclear deterrent must, in the final analysis, rest upon its capacity to inflict assured destruction upon an enemy. Close behind possession itself, a perception of this capability by allies and adversaries alike is essential for deterrence to operate. The key operative element, therefore, is a destructive capacity that is assured and recognized by those whose

responsibility it is to be aware of such matters. For almost all of its existence as an independent deterrent force, Britain's strategic nuclear arm has possessed this character.

During most of the Cold War period, the overriding strategic imperative for Britain was the pursuit of her so-called "Moscow Option," or the "Criterion," the belief "that it is absolutely vital for the Soviet capital to be [credibly] threatened at all times."[137] To be credible, the threat posed to the Soviet Union by Britain would perforce have to be a unilateral one, i.e., a nuclear-armed Britain acting alone against the Soviet Union. In the following scenario, Soviet leaders were asked to consider the consequences of such a catastrophe for their country:

> If you should ever attack us, we have the capacity to punish you, even after the event, by destroying this many of your cities, and consequently part of your industry and population. This would not only be a grievous blow in itself, but would materially weaken your capacity to withstand successfully an attack from the United States which, for the purposes of this argument you will have to assume would be a separate actor.[138]

The above remarks reveal a glimpse of a core element in British strategic deterrence doctrine: retributive force. Some years ago, it was noted that this capability for retributive force in Britain's strategic arsenal compelled Soviet "rationality" in the Cold War:

> The Polaris force has commonly been described as an "anti-city" deterrent, threatening to retaliate by killing civilian citizens of an aggressor state. The threat is not negligible; the nuclear warheads fired by, say, two British SSBNs [i.e., Polaris submarines] might kill anything up to 15-20 million people in the Soviet Union. Even one SSBN could effectively hold 10-15 million Soviet citizens hostage. In fact, however, the threat is still more extensive than that alone may suggest, since with only slightly different targeting, the same force could also destroy anything up to a quarter of the Soviet Union's industrial capacity. The *level* of threat presented by the existing force might be thought, therefore, to . . . deter a rational Soviet leadership from attacking Britain.[139]

The extent to which the Soviets were in fact deterred in this way by Great Britain is one of the great if unsung achievements of the Cold War. Lord Chalfont, the former Alun Gwynne Jones, had been Minister of State for Foreign Affairs from 1964 to 1970. Although his comments on Soviet vulnerability as well as his operational definition of credibility were made in 1980, they are worth repeating:

> One of the principal elements in the effectiveness or "credibility" of the nuclear deterrent is the degree of uncertainty which it creates in the mind of the potential aggressor.... In this context, Soviet leaders would be unlikely to "expect to ward off successfully" attacks on "large areas of key importance to them." *The Soviet Union has one dubiously effective and obsolescent ballistic missile defense system around Moscow; the remainder of its cities are unprotected.*[140]

Britain's task in the Cold War was therefore to strive continuously to keep the qualitative level of her deterrent high enough to ensure its credibility. When, therefore, Moscow began to build an ABM shield around Moscow, the British saw an immediate threat to the credibility of their "Moscow Option." Britain's response was the Chevaline Program.[141] Sir Herman Bondi, Chief Scientific Advisor to the Ministry of Defence, has explained the "strategic rationale" behind Chevaline in terms of the weapon system's qualitative dimension: the improvement of the Polaris warhead to maintain Britain's Moscow Option. Thus, whatever anti-ballistic missile defenses the Soviets might deploy, Moscow would remain vulnerable to British destruction in any case. Observed Bondi:

> For us [Britain] to resign ourselves to have a capability that is not only quantitatively small but *qualitatively* second-rate would severely diminish the political effect within the Alliance of having a deterrent at all. So the "Moscow Criterion" goes rather far. It's rather important in the context of Alliance politics....
>
> [T]he enormous importance of Moscow in the Soviet Union is quite clear. So abandoning the "Moscow Criterion" would be a very severe reduction in what one might call "the quality of the deterrent" and its prime task of helping to keep the peace.[142]

Thus, for Britain to possess a qualitatively first-rate deterrent capability was as important politically within the alliance, vis-à-vis the United States, as it was strategically to deter the Soviet Union. In the achievement of both missions, the qualitative level of the deterrent itself underwrote its credibility.

The maintenance of the deterrent's capability was very much what Prime Minister Thatcher had in mind in a 1979 speech, as she warned the Soviets to tread cautiously around Britain's vital interests. "Let me be clear," admonished Mrs. Thatcher:

> The Russians do not publish their intentions. So we must judge them by their military capabilities. I doubt whether any Russian leader would easily contemplate a repetition of the immense sufferings through which his country went

> less than forty years ago. But it is up to us to ensure that there is no doubt in his mind that this—and worse—would now be the price of any Soviet adventure. That is what we mean when we talk of maintaining the credibility of our defensive forces. To do this is well within our economic and technical capacity.[143]

Thatcher's speech is significant because it encapsulates the major elements of British deterrence doctrine:

• The intention to unilaterally inflict retributive counter-city force upon the Soviets, should the provocation be great enough. Note well, the threat was not only to repeat the devastation of World War II but that *even worse* damage "would now be the price of any Soviet adventure."

• The promise of assured destructive capability in Britain's nuclear arsenal was also present, i.e., "that is what we mean when we talk of maintaining the credibility of our defensive forces."

• Also made explicit was Britain's independent nuclear standing, vis-à-vis her "economic and technical capacity."

On this last point, Mrs. Thatcher failed to reveal the imminent achievement of British technology to manufacture tritium independently—a hydrogen isotope used to fabricate thermonuclear warheads. When fused with deuterium, a stable hydrogen isotope, tritium serves as an explosive in hydrogen weapons. Since tritium enjoys a half-life of only 12.3 years, a continuous supply is required. Since Britain had been wholly reliant on the U.S. for its supply of tritium under the 1958 agreement regarding "Cooperation on the Uses of Atomic Energy for Mutual Defense Purposes," it was a momentous occasion when in January 1980 Britain announced the commissioning of its first tritium separation plant at Chapelcross. Tritium production was scheduled to begin that spring.[144]

This was no small achievement in scientific terms, since the production of tritium is both costly and complicated, involving the cooling of lithium rods and the complex extraction of tritium. In fact, the extraction process adopted by the British was revealed as a new one which allowed tritium to be produced less expensively.[145] David Fishlock, of the *Financial Times*, commenting on the significance of the event, noted that the new plant "will be making all of the tritium Britain expects to need, both for nuclear weapons and for peaceful uses."[146] Britain's motivation for taking this step was explicitly one of capability and credibility enhancement through self-sufficiency. Dr. Lawrence Freedman, then Head of Policy Studies at the Royal Institute of International Affairs, suggested "that the decision to become self-sufficient in tritium grew

out of concern with the anti-proliferation mood in the United States and the possibility of more stringent controls on the transfer of all nuclear fuels."[147]

Such concerns were very real in the minds of British officials at this time, for it had not been three years since the revelation that President Carter was inclined to refuse renewal of the twenty-year Anglo-American nuclear cooperation treaty, set to expire in 1978. This predisposition had created grave apprehensions in the minds of British officials, for such a move by the government of the United States would not only have prohibited the transfer of nuclear fuels and technology but forbidden as well continued H-bomb tests by Britain at the underground U.S. Department of Energy test site in Nevada. Hence, the practical effect of such a non-renewal would be to place a developmental freeze on the technological evolution of Britain's independent deterrent, by turning the special relationship back to the period before the 1958 nuclear cooperation agreement.[148] That Britain had been aware of American inclinations was demonstrated in her announcement early in 1976 that she intended to manufacture tritium in the United Kingdom. When this intention was finally realized four years later, it was justified on explicitly strategic grounds: "In return for its investment in tritium, Britain has brought security of supply of a strategically important material for which previously it was wholly reliant on the U.S."[149]

Passing almost unnoticed at the same time was the brief announcement that Britain had also embarked upon a production schedule to process highly enriched uranium "for the first time since 1963."[150] Britain would, in this case, be utilizing a gas centrifuge process, "largely to ensure a supply of fuel for the power plants of nuclear submarines."[151] While both technical developments were "not linked to any specific weapons program . . . [they nevertheless point to] a continuing interest in sustaining a capability for nuclear weapons production."[152] Perhaps most of all, they underlined the sophistication of Britain's scientific and technological infrastructures and the decisive role played by both in the maintenance of Britain's assured destructive capability.

New Directions: A Substrategic Role for Strategic Systems

As Sir Michael Howard recently observed, "the Soviet Union has disappeared like the Demon King at the end of a pantomime."[153] With the disintegration of Soviet power, the Cold War came to an end. Saddam Hussein's invasion of Kuwait in 1990 and the Gulf war that ensued inaugurated a new era in world affairs. Threats to international peace and security could now also emanate from the vacuum created in the former Soviet Union and in that Union's former vassal

states along the periphery of Russia. The violent implosion of Yugoslavia heralded the return of "the Balkans" to world history, along with the horrifying possibility for wider conflict in Europe. North Korea, with an incipient nuclear weapons and ballistic missile program, also posed a threat to world peace.

In this anarchic environment, *The Times* of London proposed in a leading editorial that "Britain has lost an enemy and has not yet found a role. What is needed is not a cumbersome defense review . . . but a rolling response to the changing world."[154] British defense policy makers have determined upon such a "rolling response" to the new world order by adjusting their deterrence doctrine to meet the challenge of sea changes in the international system. The British have developed a substrategic role for the new Trident II ballistic missile, which will enter Royal Navy service in 1995. This role will continue alongside the primary mission of the Trident II, which is that of strategic deterrence.

Britain, it would appear, has adopted a strategy to be directed against a potential nuclear-armed rogue country, to deter it "from gambling on the calculation that nobody would contemplate using the full force of strategic arms against it."[155] According to Royal Navy sources, once the Trident submarines were deployed,

> they could go to sea with a "mix-and-match" missile load, some strategic and some tactical. A potential aggressor would be warned that he could face a limited tactical strike from a Trident submarine unless he backed off. The sources said that if an aggressor was not sure whether he faced a tactical strike "or Armageddon," the doubt would increase the deterrent value.[156]

According to Malcolm Rifkind, the British minister of defence, "it was essential for Britain to keep full-scale strategic nuclear arms and less potent sub-strategic weapons."[157] Trident would be configured to accommodate both weapon systems. Speaking at the Center for Defence Studies at Kings College, London, Rifkind revealed that in accordance with the new doctrine he had "set a ceiling of 96 nuclear warheads per [Trident] submarine." The actual number deployed could, however, be "significantly fewer" than ninety-six, noted the defence minister. In any event, he was quick to point out that "the total explosive power deployed on Trident would be 'not much changed' from Polaris."[158]

An interesting, indeed paradoxical sidelight to this development was the fact that in November 1993, the British government announced it was abandoning plans to develop a tactical nuclear stand-off missile for the Royal Air Force—the Tactical Air-to-Surface Missile (TASM). This system would have cost "at least" £1.8 billion, and the Royal Navy convinced the government that Trident

would be "sufficiently flexible and reliable to take on a secondary substrategic role."[159] In lieu of the TASM system, the current upgraded WE177 nuclear gravity bomb carried in Tornado aircraft will be kept in service until the next century. Thus, Britain will retain strategic capability in both her airborne and seaborne systems.

It would appear that Britain has chosen to cope with the uncertainties of the new world order by adapting her strategic deterrent to meet all levels of threat and to utilize her primary strategic deterrent, the Trident, in strategic as well as substrategic roles. What remains to be seen is whether this reconfiguration of doctrine and system will bring stability to the international system or be a destabilizing element. Regardless of the outcome, one thing is clear: in assuming this new posture, Britain has sent a message founded upon the first principles noted at the outset of our inquiry into the evolution of British deterrence doctrine. That message is that functional threats to British interests will be resisted. Now, however, the scale of that resistance will be deliberately left in doubt, so the potential adversary will be forced to consider an even greater number of adverse developments resulting from actions he might take.

Nevertheless, it is quite clear that even a substrategic nuclear response by Britain will constitute a momentous *strategic* rejoinder to a potential adversary. In the meantime, such considerations reveal the complexity and diversity of British deterrence doctrine and policy—of how they evolved and into what they evolved. Both doctrine and policy, however, require instruments to secure their realization. The forging of those instruments offers a revealing insight into the British political and defense cultures as nuclear weapons were developed.

II

Forging the Instruments

Secrecy as Strategy

OF TRANSCENDENT IMPORTANCE in Britain's experience with an independent nuclear deterrent has been "the process by which it was attained."[160] The leitmotif of that process was secrecy.

Since time immemorial, rulers have devised a variety of institutional and procedural techniques to preserve their secrets and to reach decisions. Such procedures insulate the decisional process behind a cloak of discretion so that adversaries will be kept ignorant of capabilities and intentions. On another level, by disseminating only such mind-shaping information or propaganda as the top political elites desire, an ambience or facade is erected behind which substantive policies can be pursued without attracting undue public attention. The seventeenth-century British statesman and philosopher Francis Bacon identified the principle thus:

> Concerning government, it is a part of knowledge secret and retired in both these respects in which things are deemed secret; for some things are secret because they are hard to know, and some because they are not fit to utter. We see all governments as obscure and invisible.[161]

In any discussion of secrecy in the context of the British system, there are cultural and systemic contexts to consider beyond the political or legal

institutional arrangements. Some years ago, the American sociologist Edward Shils observed in this connection:

> Although democratic and pluralistic, British society is not populist. Great Britain is a hierarchical country. Even when it is distrusted, the Government, instead of being looked down upon, as it often is in the United States, is, as such, the object of deference because the Government is still suffused with the symbol of monarchical and aristocratic society. . . .
>
> The citizenry and all but the most aggressively alienated members of the elite do not regard it as within their prerogative to unmask the secrets of the Government, except under very stringent and urgent conditions. . . .
>
> The secrets of the governing classes of Britain are kept within the class and even within more restricted circles. The British ruling class is unequalled in secretiveness and taciturnity. Perhaps no ruling class in the Western World, certainly no ruling class in any democratic society, is as close mouthed as the British ruling class. No ruling class discloses as little of its confidential proceedings as does the British.[162]

The above observation applies with a particular aptness to matters nuclear. C.P. Snow—novelist, scientist, and Civil Service Commissioner with special responsibility for the Scientific Civil Service—described the context in his fictional account of Britain's wartime atomic bomb project, *The New Men*.[163] The protagonist, Lewis Eliot, serves as a temporary civil servant, a personal assistant to Cabinet Minister Thomas Bevill. Bevill is Chairman of confidential scientific committees and thus is privy to the most secret information. In the fall of 1939 Eliot, along with a colleague, is summoned to attend the minister in his Whitehall office. The dialogue that follows is so evocative of British discretion that it merits our attention:

> . . . The first thing, said the Minister, was to forget all about the official hierarchy, the next was to forget that you had any relatives. If you possess a secret, he said, your secretary may have to know: But not your second-in-command: And not your wife. . . .[164]
>
> Forget all I tell you until you have to remember—that's what I do. But the stuff to watch is what they call a uranium isotope.
>
> He said the words slowly as though separating the syllables for children to spell. "U.235," he added. . . . Bevill [then] showed us his private dossier of the uranium project. We must not refer to it again by that name, he said: As with all other

> projects of high secrecy, he carried out the "appreciations" in his own hand, keeping no copies: The documents were then mounted in a loose-leaf cover, on which he printed a pet name. . . .
>
> He turned the cover, and we saw, printed in bold capitals, the words:
>
> MR. TOAD.[165]

The ambience is so characteristic of the British, recalling the devilishly naughty high spirits found among boys in the great public schools. But more than that, it was also symbolic of the extraordinary secrecy maintained during the war, which continued in the cold peace that followed. Secrecy has remained the modality of choice for British prime ministers in the realm of nuclear weapons. A number of elaborate, even extraordinary, procedures have been instituted over the years for the taking of decisions on nuclear weaponry and then for the covert measures necessary to implement such decisions.

In the beginning, for example, Lord Portal, controller of Atomic Energy Production within the Ministry of Supply, reported directly to the prime minister:

> Portal felt that secrecy was the overriding consideration. It was not only a question of keeping the technical secrets from other nations, though that was very important. There was also the general political aspect. Was there, for national or international reasons, any object in conceding the fact that Britain was working on the development of the atomic bomb? Finally, there was the Anglo-American aspect. Hopes of getting help from the United States "under the counter" might depend on their assessment of British secrecy arrangements. If, as it seemed, the whole business was thrice secret it would be unwise to throw the bomb requirements into the normal departmental machinery for weapons development. Hence the proposal for the Portal-Penney arrangement, with Portal as the channel for communication for the Chiefs of Staff and Penney's work camouflaged under a misleading name such as "basic high explosive research." The Chiefs of Staff agreed to suppress any reference in their Ministries to details of manufacture. . . .[166]

When, therefore, Britain could no longer avoid a decision on manufacturing an atomic bomb, a secret and specially convened Ministerial Committee of the Cabinet, known as GEN 163, took the fateful decision. Joining the prime minister at No. 10 Downing Street on the afternoon of 8 January 1947 were Ernest Bevin, Foreign Secretary; Herbert Morrison, Lord President; A.V. Alexander, Minister of Defence; Viscount Addison, Dominions Secretary; and John Wilmot, Minister of Supply.[167] It is important to note that this *ad hoc*

committee met against a backdrop of severe economic crises for Britain; factories were closing down because they had no coal, economic rationing was still in place, and general living conditions for the average citizen were miserable. Notwithstanding this economic climate and the enormous outlays that would necessarily follow a decision to proceed, Hugh Dalton, Chancellor of the Exchequer, was not in attendance, nor were Sir Stafford Cripps, President of the Board of Trade or Arthur Greenwood, the Lord Privy Seal.[168] Only three copies of the minutes of the meeting were made. Before the committee were directions on two points: Should research and development of nuclear weapons begin? If so, were "special arrangements" for the project to be adopted? Such arrangements would be similarly discreet, if not actually covert. On the first point, Bevin, the influential foreign secretary, said "it was important that Britain should press on with the study of all aspects of atomic energy. 'We could not afford to acquiesce in an American monopoly of this new development.'"[169] The GEN 163 Committee, therefore, took the decision to begin research and development on atomic weapons. On the second point before the Committee, the special arrangements necessary for secret development were adopted. So secret were they that only five or six senior officials outside Portal's organization ever knew of their existence. Indeed, Dr. Penney, one of the key actors in the drama, "did not know of this ministerial meeting in January 1947 and was not told to go ahead until the following May."[170]

If the Cabinet in its collectivity had been excluded from this decision, so too was Parliament. Just after Winston Churchill returned to power in 1951, he paid "tribute to his predecessor [Attlee] for making the initial decision and sanctioning the huge expenditures that had never been revealed to Parliament. Very soon it was common knowledge that this decision had been taken by Mr. Attlee without any prior discussion in the Cabinet, and that he had never revealed it to any but a handful of trusted friends."[171] As Churchill put it, Attlee and his colleagues had "preferred to conceal this vast operation and its finance from the scrutiny of the House; not even obtaining a vote on the principle involved."[172]

Attlee's practice with respect to the acquisition of nuclear weapons was to prove paradigmatic. Since the Polaris missiles supplied to Great Britain by the United States under the Nassau Agreement of 1962 were to enjoy a life-span of twenty to twenty-five years, in the mid-1970s the British again had to make some highly secret, yet necessary, decisions on the future of their independent nuclear deterrent. This was achieved by another Labour prime minister, James Callaghan. The latter set up a super secret Cabinet group on Polaris replacement, which "supervised much of the technical and diplomatic preparations" for a

final decision by a subsequent government.[173] Using this special Cabinet structure, "Callaghan confided in *only three* colleagues, who met at No. 10 Downing Street in conditions of strictest secrecy." The group included Dr. David Owen, Foreign Secretary; Frederick Mulley, Minister of Defence; and Dennis Healey, Chancellor of the Exchequer and a former Minister of Defence. The balance of the Cabinet was excluded. Callaghan's covert actions were publicly justified on grounds of a Labour Party election campaign promise of October 1974 to forgo development of the third-generation British nuclear deterrent after Polaris.[174] The prime minister, however, refused to allow a mere electoral platform of his own party to interfere with his responsibility as the Queen's First Minister, to act in defense of the realm. *Raison d'état* prevailed, upheld by a secret Ministerial Committee of four.

As it happened, the Parliamentary debate over the interim Polaris system, Chevaline, which took place in January 1980, was "the first time in 15 years that MP's have debated Britain's nuclear forces."[175] Likewise, Project Chevaline had been characteristically "buried away each year in the other research and development item and elsewhere in the defense estimates."[176] It was not to be until January 1980, "almost six years after it was given the go ahead" by the secret Cabinet committee, that Parliament would be told the actual cost, £1,000m.[177]

And in July 1980, Callaghan's successor, Margaret Thatcher, a Conservative, took the final decision to replace the Polaris system with a successor, also purchased from the United States, Trident. The ministerial structure for taking this decision was likewise highly secret and small, smaller in fact than Attlee's GEN 163 Committee had been. First convened in the summer of 1979, soon after the Conservatives returned to power, Mrs. Thatcher's secret Ministerial Committee, MISC 7, included Lord Carrington, Foreign Secretary; Francis Pym, Minister of Defence; Sir Geoffrey Howe, Chancellor of the Exchequer; and William Whitelaw, Home Secretary.[178] As on an earlier occasion, not only had the full Cabinet been excluded from a decision involving nuclear weapons, but so had Parliament. In this case, the only concession the government made was to inform Parliament of the final decision, after the fact. Just for the record, William Rodgers, Chief Opposition Spokesman on Defence—in effect the shadow defence minister—challenged the government's practice in a parliamentary debate:

> Neither the house nor the country has had such a privilege [i.e., of fully debating Trident] because the information available to the Government has not been made available on a wider scale.[179]

The reply of Francis Pym, the minister of defence, was instructive: "The way in which the Government has considered this important matter and announced its decision to the house is wholly in accordance with our parliamentary and constitutional practice."[180] In any case, Pym added:

> It is for the Government to come to its decisions and then to present them to the House and to defend them there. We did arrange a debate in January. Mr. Rodgers says it was not adequate, but it was on our initiative. . . . It was a useful occasion as a preliminary to the decision I have announced today.[181]

Thus, full British Cabinets have been systematically excluded from some of the most crucial strategic decisions taken by postwar governments, a procedure that has eventuated across time, party, and ideology. While individual Members of Parliament were doubtless informed about these developments in one way or another over the years, Parliament as a collectivity has been even further removed from knowledge, let alone the political luxury of a vote. The closest Parliament came to debating a government decision on nuclear deterrence in 1980 was *post facto*! In recent years the record has improved only marginally.

Dissimulation as Statecraft: The Thucydidean Paradigm

High policy concerns questions and issues relative to the survival of the state. As such, high policy is characterized by a restriction of fundamental knowledge in those contexts that concern life and death issues for the state.[182] Nuclear weaponry is a topic suitable for classification as a high policy issue; hence, an aura of great secrecy surrounds it in all political systems, Britain's included. The reason is obvious enough: the reality for a world in which sovereign nation-states struggle for advantage and for survival itself is that truth will be qualified, deliberately falsified, and otherwise contaminated by those having the means at their disposal to do so. Thucydides chose to begin his fifth-century B.C. history of the Peloponnesian War with perhaps this most important principle of statecraft as his first lesson. It has since become a paradigm for political behavior with reference to the great issues of war, peace, and survival itself. As to why Athens and Sparta, along with their tributary allies, chose to wage a mighty twenty-seven-year struggle for Hellenic hegemony, Thucydides wrote:

> The real cause I consider to be the one which was formally most kept out of sight. The growth of the power of Athens, and the alarm which this inspired in Lacedaemon, made war inevitable.[183]

All subsequent actions, therefore, were taken by Sparta either on behalf of or as a counter to Athenian hegemonic aspirations, despite public justifications to the contrary. The point is that the real *casus belli* was "the one which was formally most kept out of sight."

Many years ago, the American statesman Paul Nitze attempted to bridge the historical gap between Thucydides' time and his own. Nitze suggested the political institutionalization of the prevailing dichotomy between a government's actual interests and whatever facade of words, slogans, and ideologies it might choose to advance. Nitze, therefore, points out that for governments "the word 'policy' is used in two related but different senses." In one sense, "the *declaratory* sense, it refers to policy statements which have as their aim political and psychological effects." It is in the other sense, however, "the *action* sense," that policy "refers to the general guidelines which we believe should and will in fact govern our actions in various contingencies."[184] Thus, while declaratory policy is perceived as operative by the mass public, including the articulate elites, in fact it is not. On the other hand, action policy, perceived or not perceived, is operative. The essential difference then between declaratory and action policies is that they exist on different levels.

More to the point, Britain's greatest success in the policy management of an operative strategic deterrence doctrine has been her mastery of declaratory policy to obfuscate not only action policy but the strategic objectives inherent in it. In so doing Britain has delivered a virtuoso performance.

Andrew J. Pierre was perhaps first to observe that British deterrence doctrine was obscured behind a facade. He explained the practice in his definitive study of the British nuclear deterrent as, in part, "due to the nature of the British political system [wherein] . . . 'declaratory' policy tends to run ahead of 'action' policy."[185] The matter becomes clarified immediately if Nitze's formulation is adopted and Pierre's phrasing is amended to read: "Due to the nature of the British political system . . . 'declaratory' policy tends to *overshadow* or *obscure* 'action' policy." This policy modality captured the attention of British defense strategists Peter Nailor and the late Colonel Jonathan Alford.[186] They wrote that:

> [Since British] Governments normally confine their explanations about strategic nuclear weapons policy to short descriptions of current functions of the nuclear forces . . . the annual British Defense White Papers, [and] the defense debates in Parliament . . . the foreign policy debates that touch on this aspect of British security concerns, yield relatively little about strategic purposes or security doctrine. Certainly by comparison with the United States and French official

> explanations and legislative discussions, the material about the objectives of the policy, rather than the capability to execute it, is thin.[187]

Thus, what was obscured was neither hardware nor capability but doctrine and the policy objectives on behalf of which such strategic hardware was deployed.

A recent study has concluded that "part of the explanation for the relative neglect of British doctrines about nuclear strategy is that British thinking during the post-war decade was mostly conducted at an official in-house level" and hence was unavailable in the public domain for many years.[188] As such, for a good many years, strategic questions were not given the kind of exposure in the scholarly literature and in the political arena that they enjoyed in the United States. This however is disputed by other evidence: the studious avoidance of public parliamentary discussion was no accident, as Gowing has noted. "There was ignorance, deliberately encouraged by the Government, about the independent deterrent."[189] The result of this pattern of reticence is a strategic deterrence doctrine that has been left unarticulated.

If officially imposed secrecy and exegetical obtuseness have managed to mask content and substance, so too has the conduct of public debate. Stepping into the void left in British deterrence doctrine, and filling it for so many years, has been "prestige." As a *raison d'être* for Britain's independent nuclear deterrent, prestige has in fact come to serve as a substitute, even a facade, for an explicitly articulated and coherent strategic deterrence doctrine. Prestige has become an exemplar of dissimulation in the service of statecraft.

Ever since the British began to deploy their own nuclear weapons, British society has been divided over the necessity for them. The question invariably raised has been whether Great Britain can afford the vast capital outlays necessary for the research, development, and deployment of nuclear weapon systems, particularly when those systems are being duplicated by Britain's closestally, the United States. In the 1950s, some groups, such as Lord Russell's followers in the Committee of 100, demanded nuclear disarmament. They argued that, in addition to being a drain on vitally needed domestic resources, Britain's nuclear program was a futile attempt to regain lost greatness as decolonization advanced. Elements in the Labour Party rank and file agreed. Paradoxically, many in the Conservative Party demanded an independent nuclear deterrent for Great Britain on precisely the same grounds; national prestige.

From the 1950s to the present, therefore, prestige has actually defined the tone and context for parliamentary debates, relative to the need for a distinctly British nuclear deterrent. Analysts too have been quick to accept the premise;

to cite one example of this *genre*: "Unlike the French, the British felt that the magnitude of the American arsenal made the Atlantic connection essential. Thus, to enhance their prestige, they wanted to play a key role alongside the Americans in international affairs."[190]

While "prestige" may serve as an apologia for public consumption, it, like "honor," has no basis on which to create substantive policy. Shakespeare, for example, makes clear in *Henry IV* that honor is just "for show." Accordingly, Falstaff asks:

> Can honor set to a leg? No. Or an arm? No. Or take away the grief of a wound? No. Honor hath no skill in surgery then? No. What is honor? A word. What is the word honor? Air.[191]

So, too, prestige. As an operational principle prestige is meaningless, since in the context of world affairs it has no power to compel the obeisance of others or even obtain a hearing; therefore, it secures no concrete objectives. On reflection then, prestige is neither cause nor effect, only rhetoric—currency without value *except as pretext*. Were John Foster Dulles' dictum to be applied—"It has always been necessary to look behind words of individuals [in this case, nations] to find from their actions what their true purpose is"[192]—prestige would be revealed as a policy objective, *declaratory* in nature.

Examination of the budgetary allocations voted by successive British governments to secure an independent nuclear deterrent reveals that "prestige" is not a satisfactory causal explanation. Governments, after all, institute ruthless cost-benefit analyses to keep down expenditures. The enormous costs relative to the research, development, and deployment of atomic and thermonuclear weapons preclude prestige as an authoritative sanction. Embarking on such a course demands huge infrastructural investments in the chemical, electrical, and metallurgical sectors.[193]

Substantive evidence of such investment should definitively factor out prestige as an operative element in Britain's strategic calculus. For example, the detonation of Britain's first atomic bomb at Monte Bello on 3 October 1952 had been a very expensive moment indeed. Gowing assessed the achievement as "an extraordinary research and industrial effort involving £150 million or so of expenditure."[194] In 1952, Great Britain spent some 9.9 percent of her gross national product (GNP) on defense.[195] Given the severe postwar austerity program to which Britain had subjected herself since 1945, coupled with the higher valuation of the pound sterling relative to the dollar then, and Britain's

willingness to defend her currency whatever the domestic costs—these investments were of considerable magnitude.

The United States agreed to supply the British with Polaris ballistic missiles in December 1962. One authoritative source recalled that "the original Polaris force, excluding its operating expenses, cost Britain something like £1,600 million [i.e., £1.6 billion] at 1976 prices."[196] In 1980, "Britain's annual expenditure on research, development and demonstration (R, D & D) [was] close to $10 billion, of which *central government* [was] providing more than 50 per cent."[197] In a survey of British technology, Mervosh and Fishlock conceded this figure to be "relatively high compared with other major industrialized countries."[198] Most important of all, they noted, "about 50 percent of it is directed toward defense."[199] Not surprising, then, is the fact that "defense is a major industry in Britain. The nation [in 1980] spent 4.9 percent of its gross national product on defense, a higher proportion than any NATO nation except the U.S. . . . Expenditure on defense R & D [in 1980] was estimated at $3.3 billion."[200] Thus, one gets a much clearer insight into British defense allocations over time: 4.9 percent of GNP allocated to defense appears paltry by comparison with the 1952 outlay of 9.9 percent, but actually quite the reverse is the case. The British are currently getting far more for their defense spending as a percentage of GNP allocated to the strategic deterrent than it would appear at first glance. Evidence for this contention will be found in the data analysis presented in the appendix.

The Chevaline Program to extend the life of Britain's Polaris submarines was first revealed in January 1980. Defence Minister Pym noted the cost to develop and deploy Chevaline had been £1 billion, or about $2 billion.[201] Any doubts about funding sources were dispelled by Pym himself, who declared that the Chevaline Project had been "funded and managed entirely by the United Kingdom."[202]

Despite the fact that the planning for Chevaline had originated under a Conservative government after 1970, the biggest expenditures on the project fell after Labour's return to power in 1974.[203] Original cost estimates authorized by the Wilson government in April 1974 had been between £230m to £250m.[204] However, "soon after being sanctioned . . . Chevaline built up to involve a team of about 5,000 people, spending about £2m a week. . . . A review of the project in 1976 established that the Ministry of Defence had previously underestimated the complexity and cost and the 1975 figure of about £350m to equip the four Polaris boats was increased to £600m and the in-service date changed from 1979 to 1981. A further review a year later led to a second revision of costs to

£800m. Since 1977, the only significant increases in cost now put at £1bn have been due to inflation."[205]

In any event, following earlier established patterns of British nuclear policy management, it was only in January 1980, "almost six years after it was given the go-ahead . . . [that] the Commons [was] given the true [cost] figure of £1,000m . . ."[206] for the Chevaline program. And of equal significance is the fact that only in July 1981 did the powerful House of Commons "spending watchdog," the Public Accounts Committee, finally agree to launch a special investigation of "the lack of financial control" exerted over the research and development of Chevaline.[207] This action illustrates the fact that Chevaline's development was so crucial to the continued credibility of Britain's deterrent that its cost was no object to successive governments. It was only after the research and development phase had been completed and Chevaline was almost ready for deployment that the luxury of public discussion and parliamentary debate could be safely indulged. Here again, the terms of debate were questionable, focusing on the notion that "Chevaline was simply a job creation scheme to keep Aldermaston going" between the Polaris phase-out and the deployment of its successor.[208] But Chevaline-as-job-creation flies in the face of the entire history of the British nuclear weapons effort. The focus on Chevaline-as-job-creation, and not deterrence itself, actually parallels the utilization of prestige as a diversion away from an articulated strategic deterrence doctrine. Here again, the investment of blood and treasure speaks more eloquently than mere words.

As the successor to Polaris, the Trident submarine will constitute the third-generation British nuclear deterrent. Four new Trident II submarines are being built and armed with American-supplied Trident missiles, the warheads of which will be British-made. In the fall of 1993, the British defence ministry revealed that 1994 was to be the "original in-service-date" for Trident. While original development costs (in £million) for the Trident missile system were projected to be £3,447, it was revealed that the estimated final development costs were considerably lower, at £2,155. As for the Trident submarines, the original development cost of the first one was estimated to be £1,460, while the estimated final development cost was projected to be £1,395. Final development costs for the second and third Trident submarines were projected to be £869 and £891 respectively.[209]

When the Trident decision was first announced in July 1980, the prime minister was questioned on her government's priorities in view of the £5 billion price tag involved. Mrs. Thatcher's reply was instructive: "It is the prime duty of government to secure the defense of the realm. Freedom is worth

preserving."[210] At a later point in the discussion, Mrs. Thatcher conveyed in very explicit terms the operative meaning of defense of the realm:

> For us to show weakness in the face of increasing Soviet expenditure would place the future of this country and our way of life in jeopardy. This Government will never do that.[211]

These statements, however, did not put an end to the matter. The manifestly declaratory or dissimulative nature of "prestige" as an operative concept was revealed in the parliamentary debate on Trident held on 15 July 1980, as Stanley Newens, Labour Member from Harlow, put this question to the minister of defence: "Are we not merely going in for this tremendously expensive deterrent for reasons of prestige?"[212] Pym's treatment of the query was at once explicit and contextually consistent with the budgetary data presented above:

> There is no question of prestige or status. It has been a cold analysis of the facts of the situation. This deterrent capability exists to preserve the peace. It exists not to be used. It is the threat of the use that is the deterrent. It is not as expensive as a war.[213]

Prestige, then, has been explicitly and officially disconfirmed as an operative element in British nuclear deterrence doctrine. If Britain needed a motive for developing an independent nuclear capability, then prestige could not have been the source of that motivation. "Prestige" could not have justified the level of investment Britain committed herself to research, design, and develop nuclear weapons in the postwar period. Even if, for public consumption, prestige had been made to serve in a declaratory sense, prestige doctrinally nevertheless remained *disconnected* from *operative* doctrinal considerations. In Britain's case, the ambiguity was contrived for important political if not strategic reasons:

> The debate about nuclear weapons seems to be intrinsically about a wider issue: Britain's role in international affairs. If this is a reasonable picture of some of the most important political divergences about the deterrent it might go some way towards explaining the relative lack of authoritative exegesis over doctrine.[214]

A clear discussion of Britain's role, hence her geostrategic objectives, was to be avoided, and to this extent prestige in its dissimulative role had served as a convenient diversion, an instrument of statecraft. By leaving such a topic ambiguous and abstract, sensitive issues are avoided. Some questions, involving the life and death of the state itself, may be situational: conditions under

which unilateral steps might have to be taken, even against the interests of her closest ally, the United States. Such questions are, of course, embarrassing for all concerned, are subversive of allied solidarity when raised, and for this reason are best left unspoken, even if comprehended and appreciated by those granted the understanding.

British officials adhere to this policy of discretion with a fidelity that confirms its transcendent power. Lord David Owen, former Leader of the Opposition Social Democratic Party, observed, with reference to Anglo-American relations and by implication the Anglo-American special relationship applicable to nuclear weapons:

> Mrs. Thatcher believes as a matter of principle that she should never display any public irritation with the course of Anglo-American relations, and who can say she is wrong? For all the occasional problems with public opinion at home, if the Atlantic Ocean is to be bridged and the intimacy of our relationship maintained, it is not a bad discipline for our friendship that we should differ only in private.[213]

Discretion, then, in public discourse, with reference to the most sensitive elements in Anglo-American relations has been an operational principle. "Prestige" has been a useful tool of policy management, substituting as a *tromp l'oeil*, an optical illusion for real substantive policy. Nevertheless, the widespread acceptance of this facade as reality, in the face of empirically verifiable evidence to the contrary, is itself testimony to a masterful display of policy management, through dissimulation, by successive British governments. Such a display does not, however, exhaust the policy management repertoire; it serves rather to introduce policy management itself as a subject of inquiry.

Policy Management for an Independent Nuclear Deterrent

In her study of Britain's development of nuclear weapons, Margaret Gowing wrote that Britain sought "to be a nuclear power for the sake of the influence this was expected to give her in Washington."[216] A review of the sources confirms the accuracy of the observation. Note, for example, Foreign Secretary Ernest Bevin's comments on the policy management implications of Britain *not* having her own independent nuclear capability. Meeting in a secret Ministerial Committee of the Cabinet, GEN 75, on 25 October 1946 (more than two months before a formal, but similarly secret, decision to build the bomb), Bevin declared:

> We've got to have this. . . . I don't mind for myself, but I don't want any other Foreign Secretary of this country to be talked at or to by a Secretary of State in the United States as I have just had [*sic*] in my discussions with Mr. Byrnes. We have got to have this thing over here whatever it costs. . . . We've got to have the bloody Union Jack flying on top of it.[217]

In this instance, possession of nuclear weapons by one nuclear power was structurally linked to the concomitant political influence to be secured from another as a result. Significantly, the frame of reference was not that Britain in this manner sought to gain influence over the Soviet Union—indeed, that objective was accepted as a given—but rather, over Washington.

This theme was repeated in the "Global Strategy Paper" of 1952. As "one of the most significant documents in the history of postwar British defense policy,"[218] the Global Strategy Paper remained classified as late as January 1983.[219] The Paper was formulated by the three service chiefs, at the suggestion of Sir John Slessor, Chief of the Air Staff. Meeting at the Royal Naval College, Greenwich, between 28 April and 2 May 1952. The "Greenwich Exercise," as it came to be called, was "perhaps one of the most remarkable attempts of its kind to rethink national strategy as far as possible from first principles."[220]

After several drafts, the service chiefs, aided now by Sir Ian Jacob, former military assistant secretary to the War Cabinet in World War II, forwarded the Paper to Prime Minister Churchill. Summarizing the Global Strategy Paper several months later, the service chiefs would note: "The main conclusion was that provided the deterrents of atomic air power and adequate forces on the ground were properly built up, and maintained, the likelihood of war would be much diminished."[221] Britain's nuclear bombs would have top priority in this strategy. While the service chiefs accepted the fact that the United States Air Force would play the predominant role in deterring the Soviet Union, the Global Strategy Paper nevertheless explicitly addressed the utilization of Britain's nuclear deterrent as a policy instrument. Noted Eric Grove, "The main role of the future British nuclear bomber force was to gain influence over the direction of an Allied strategic nuclear offensive towards targets of the greatest importance to the United Kingdom."[222] In 1952, this reference could only be directed towards the United States.

In his study of the Sandys White Paper, Professor Martin Navias has likewise commented upon Britain's possession of an independent nuclear deterrent "as an incentive to the United States to include Britain in her strategic plans and her deterrent orbit."[223] Thus in November 1957 "a senior (though unnamed) official in the British Ministry of Defence informed American officials at their Embassy in London: 'UK nuclear weapons production was largely for political

reasons, both in terms [of a] desire to give [the] UK increased stature as a nuclear power and in [the] hope [that] UK possession [of] these weapons would give [her] greater leverage in dealing with [the] US.' "[224]

Should there be any doubt, therefore, about the proper contextual basis for Prime Minister Macmillan's remarks in a letter of 5 August 1961 to the Queen? "I have always thought about American Presidents that the great thing is to get them to do what we want. Praise or blame we can leave to history."[225] In such comments as these, the full meaning of the Anglo-American special relationship emerges as a functional component of British strategic deterrence doctrine. An uncharacteristically explicit reference to the dynamics of this process was made just as the Trident decision was announced:

> One policy-maker involved in the Trident decision said: "The real point of the British deterrent is to lock the United States into Europe. So long as we have a weapon that is as good as the biggest bang they can make, the Americans cannot disengage themselves."[226]

Thus, the reality is that through her possession of an independent nuclear deterrent, and notwithstanding extensive cooperation with the U.S. in nuclear weapons programs, the Americans are compelled to take British interests into consideration. To the extent that it is so, U.S. freedom of action at the strategic level will be circumscribed. The following appreciation of the dilemma this situation presents to American policymakers is illustrative:

> Because we have assumed part of the burden which you bear in possessing these terrible weapons of mass destruction, and because we stand with you in our determination to deter aggression, we seek to ensure that the responsibility of deciding when and whether this ultimate expression of force shall be used, will also be shared. We have the right, by virtue of this burden, to be heard in your counsels. And you should not forget that these weapons also give us a better ability than some of your other friends to stand aside from your decision, if we do not agree with your proposition.[227]

Through such a scenario as this, British strategic deterrence doctrine is made manifest. But for all its theatrical ambience, such deterrent power is no less existentially operative and therefore exists as an elemental part of the strategic calculus, a force to be reckoned with. This being the case, some attention should be paid to the strategic systems found in Britain's nuclear arsenal, as they have evolved over three developmental generations.

The Genesis of Deterrent Systems: The V-Bomber

The earliest delivery system was the V-Bomber. It was configured to approximate the American B-47 medium-range bomber. According to Pierre, it was "a most interesting historical fact that the Defence Subcommittee of the Cabinet made the decision to manufacture the atomic bomb . . . in the same month that the V-Bomber specifications were issued. Certainly the link between the two actions must have been in the mind of at least one Cabinet minister."[228] By the time that Britain conducted her first atomic test in October 1952, the V-Bomber was still virtually a prototype. Nevertheless,

> by 1954 the trend towards what might be termed an independent deterrent role could be read between the lines of that year's Defence White Paper:
>
> "From our past experience and current knowledge we have a significant contribution to make both to the technical and to the tactical development of strategic air power. We intend as soon as possible to build up on the Royal Air Force a force of modern bombers capable of using the atomic weapons to the fullest effect."[229]

Although research and development had been ongoing since at least 1952, Britain officially declared her intentions to proceed with the manufacture of the hydrogen bomb in the 1955 Defence White Paper. These intentions were made manifest in the conclusion to a section on "The Tasks Before Us":

> We must therefore contribute to the deterrent and to our own defense by building up our own stock of nuclear weapons of all types and by developing the most up to date means of delivery. . . . We must, in our allocation of resources, assign even higher priority to the primary deterrent.[230]

Thus, the V-Bombers, which were ready to come on-stream, could be adapted easily to carry hydrogen bombs as well as atomic weapons. "Indeed, it was thought that thermonuclear bombs would require fewer bombers and necessitate less accurate delivery. The very availability of the H-bomb and its means of transport argued for its acquisition. . . . More fundamentally, strategic doctrine as it had been evolving in Britain supported the H-bomb as the apex of an independent nuclear deterrent."[231] By 1955, therefore, the first V-Bomber squadron equipped to carry atomic bombs—the Valiants—became operational. Nevertheless, by 1956, "three-quarters of Bomber Command's total strength

still consisted of Canberras that were unable to reach the Russian heartland."[232] Britain keenly felt this strategic vulnerability at the time of the 1956 Suez Crisis:

> In November 1956 the RAF was equipped with atomic bombs and a means of delivery. But since they did not constitute an effective deterrent against the Soviet Union, the possession of nuclear weapons did little to strengthen British resolve against the threat of Russian rockets. . . . The vulnerability of the British Isles in a nuclear exchange and the inadequacy of the deterrent capability of British nuclear weapons could not have been overlooked in Downing Street.[233]

More Valiant bombers were delivered to the RAF in 1956; the first Vulcan squadron entered service in 1957, the year of Britain's first successful H-bomb test. Victor bombers first became operational in the spring of 1958.[234] By that time, Britain's sense of strategic vulnerability, so keenly felt at Suez, had eased considerably. Randolph Churchill, the son of Sir Winston, and an astute political journalist, was able to inform the American Chamber of Commerce in London that:

> Britain can knock down twelve cities in the region of Stalingraad [*sic*] and Moscow from bases in Britain and another dozen in the Crimea from bases in Cyprus. We did not have that power at the time of Suez. We are a major power again.[235]

For the first time, we have explicit data confirming when, where, and how Britain's strategic deterrent could unilaterally wreck the Soviet Union. Britain was no longer to play strategic hostage either to the Soviet Union or to the blandishments of American diplomacy.

While Bomber Command had completed its deployment of V-Bomber squadrons by 1960, the Vulcans and Victors were not equipped with hydrogen bombs until 1961.[236] Once fully operational, however, they constituted "a formidable offensive force. Capable of flying at over 50,000 feet and of reaching nearly Mach I, their altitude and speed performances compared favorably with the best Soviet and American bomber aircraft."[237] By 1961, the V-Bomber force had reached full strength, 180 aircraft which "were capable of reaching the majority of industrial targets in Russia from bases in Britain and Cyprus."

In assessing the British role in the containment of the Soviet Union, a good deal of credit must be given to the V-Bomber force of the RAF. Its role in this mission was neither token nor marginal:

> The V-Bomber force of *Victors*, *Valiants*, and *Vulcans*, because of its proximity to the Warsaw Pact, had certain advantages over the American Strategic Air Command and had sufficient flexibility to pick out enemy targets of compelling local interest. It would have played a prominent part in the "first wave" of a Western nuclear attack on the Soviet Union.[238]

On delivery of Mark II V-Bombers to Bomber Command in 1963–1964, Britain's strategic deterrent was further enhanced by virtue of a longer-range capability and attainment of a higher operational ceiling. The Mark II carried Blue Steel "stand-off" bombs as well, which could be launched two hundred miles away from the target, thereby rendering enemy air defenses vulnerable to penetration. As the RAF became concerned about the vulnerability of its strategic deterrent force after 1958, a variety of countermeasures were taken: aircraft were dispersed, planes were scrambled in four minutes, and low-level flying exercises were held to teach bombers the techniques of radar evasion.[239] In this way, Britain sought to maintain the integrity of her deterrent's assured destruction capability at a time of dynamic technological change. Paradoxically, however, "this was a somewhat melancholy struggle against obsolescence . . . for the simple reason that the V-Bomber force did not come fully of age until the era of missiles."[240] Indeed, it was not until 1963 that the Defence White Paper of that year declared the V-Bomber force had reached its peak.[241] How paradoxical then, that Britain's nuclear weapon systems entered their second generation under the Nassau Agreement of 1962, just as the first generation air-delivered deterrent was reaching its own height. By virtue of her acceptance of Polaris missiles from the United States, Britain's strategic deterrent thereby rested on two pillars: the V-Bomber and the Polaris ballistic missile submarine.

The Second Generation

The Missiles of Polaris

The Polaris system was ideally suited to Britain's needs. In terms of cost and technological level, Polaris was not priced prohibitively high or "prone to obsolescence."[242] Furthermore, the Polaris force was relatively invulnerable to surprise attack, hence could not be a causal factor in the precipitation of a crisis. That is to say, since Polaris was in fact invulnerable, an adversary had no incentive to launch a preemptive strike upon a Polaris submarine force. To do so would be suicidal for the initiator. Having evaded an enemy's "first strike," the Polaris force could then launch its own "second strike" in retaliation. The

Polaris missiles were counter-city weapons only, not accurate enough for strikes on an adversary's strategic forces. And yet the very destructive capability inherent in them could, and did, exert a certain stability into great-power politics.

The fact that only four ballistic missile submarines eventually joined the Royal Navy did not marginalize their impact on the strategic calculus, and, in particular, Britain's place in that equation. To assume anything else would be to misperceive the nature of Britain's second generation deterrent and its overall capability. Professor Freedman has drawn the appropriate conclusion from this premise, to wit:

> It should not therefore be thought that, because of the comparative size of the arsenals of the superpowers, the missiles contained in even one *Polaris* submarine do not present a serious nuclear threat. They could inflict a catastrophe of immense proportions on the Soviet people.[243]

The Polaris submarine could inflict catastrophe on any people, for that matter. By gaining a second generation nuclear deterrent of the magnitude of Polaris, Britain's position as a nuclear power with second-strike capability was considerably enhanced. This enhancement would need to be factored into the global calculus of power, as much by Britain's allies as by her adversaries.

An understanding of the Polaris project, as well as those of its successors (the Chevaline replacement, and the next generation system, Trident), would be incomplete without some attention to program management.

As a result of the Nassau Conference, Britain established a "Polaris Executive" organization, or CPE (for Chief, Polaris Executive), to manage the project from the British side. Unlike the divisions which had prevailed at the political level between Britain and the United States over the British deterrent, relations between the Royal Navy and the United States Navy were correct, professional, and organizationally close. The U.S. Navy assigned its Special Projects Office (SP), originally established to manage the American Polaris Program, as the liaison with the Royal Navy for the duration of the project.

The transfer to Britain of the American experience in the Polaris program was actually the first of the fruits from the Nassau Conference to be harvested. The observations of Professor Nailor, a member of the Polaris Executive, are well worth repeating:

> It was inevitable that American ideas and experience should be taken as a model against which to set British needs: The United States Navy had been operating

> FBM [i.e., Fleet Ballistic Missile] submarines in their fleet since November 1960 with great success, and it would have been ridiculous not to use this experience and information. The general pattern of operating cycles, the provision of two crews for each boat in order to maintain a high level of operational availability, and the insistence on high maintenance standards all derived from American practice.[244]

One of the most significant developments to emerge from Britain's Polaris construction program was the fact that operations stressed the raising of performance standards "and expectations of significant elements in the defense procurement process in the United Kingdom."[245] This development was at least as important as the development and assimilation of nuclear shipbuilding technology, for it laid the groundwork for all future British efforts in this area. The British adopted "critical path network analysis" techniques to facilitate the project management mission of the Polaris Executive team. The latter insisted these techniques be applied by the prime shipbuilding contractors.[246] This practice "introduced modern management science to areas both of the Civil Service and to private industry where it had been previously unknown."[247] The British borrowed on the American experience in defense contract management, holding regular meetings between contractors and Polaris Executive personnel, to monitor production milestones. Polaris thus brought essential modern management techniques to British industry, with obvious possibilities for future civilian application.

The Polaris Sales Agreement, signed on 6 April 1963, committed the U.S. government to furnish Britain with Polaris "missiles themselves and their support equipment and instructions on how to use them. Other than this, no other information on the design of the missiles was to be included."[248]

A special subcommittee, the "Joint Re-entry System Working Group," was established to manage the marriage of British-manufactured warheads to the American Polaris A-3 Submarine Launched Ballistic Missile System (SLBMS). Under the terms of the sales agreement, also, "the Americans committed themselves to share information on any improvement in any element of the weapon system and its platform except re-entry vehicles. Any improvements suggested by the British would be made available in return."[249]

The British-designed re-entry system was proven in several experimental tests, one of which was an underground nuclear test conducted at the U.S. Atomic Energy Commission test site in Nevada (November 1965). The Prime Minister announced the successful test results in the House of Commons on 18 November 1965. By the spring of 1966, all design work had been completed.[250]

The first test-firing of a Polaris A-3 missile by the British was conducted from the HMS *Resolution*, submerged off the Florida coast, at 11:15 A.M. on 15 February 1968. In his study of British naval policy since 1945, Eric Grove declared the test to have been "a remarkable achievement of planning and management . . . perhaps unknown in the postwar history of the Royal Navy."[251] The HMS *Resolution* conducted her first patrol in June 1968, and since June 1969 at least one SSBN has been on patrol at all times.[252]

With respect to costs, as evidenced from Statements on the Defence Estimates for 1965 and 1975, in 1965 the V-Bomber force absorbed up to 6 percent of the total defense budget. By 1975, however, the cost of the Polaris force was taking up less than 1.5 percent of the defense budget.[253] Professor Grove was hardly exaggerating when he concluded that Polaris "was undoubtedly the most successful British weapon procurement project of the whole postwar period."[254] Therefore, the Chairman of Vicker Shipbuilders cannot be faulted for his assertion that "Polaris was the best defense bargain the British taxpayer ever had."[255]

The Chevaline Interregnum

Realizing that Polaris would be approaching obsolescence by the early 1990s, Britain decided to develop and deploy a replacement for the warhead on the Polaris A-3 missile. This replacement, Britain hoped, would prove to be an interim solution to bridge the gap between the rapidly aging second-generation Polaris deterrent and a third-generation deterrent on the horizon. The result was Chevaline. This Chevaline replacement program has been overshadowed both by Polaris and the successor Trident II systems. Indeed, the strategic studies literature and American media in the 1980s generally ignored this development. Chevaline, however, was a far more significant development than was indicated by the inattention it received at the time.

The Chevaline missile had its origins in 1967, as an attempt by the U.S. to counteract offensively the Soviet construction of an anti-ballistic missile (ABM) system, code-named Galosh, around Moscow and its environs. The ultimate U.S. solution to the problem posed by Galosh lay in the development of a MIRV system, the Poseidon. The product of an advanced technology, it was believed that Poseidon could neutralize Soviet ABM defenses by virtue of the independent targetability of each of the multiple warheads it deployed. In this dynamic environment, it was readily apparent to Britain that the overriding strategic imperative would be the retention of similar capabilities. This is to say, Britain would need to retain for herself the capability to neutralize any

potential threat inherent in a Soviet ABM barrier in place around Moscow. For Britain, therefore, pursuit of her so-called Moscow Option or the "'Moscow Criterion,' the belief that it is absolutely vital for the Soviet capital to be [credibly] threatened at all times,"[256] would remain a strategic imperative.

Out of the vacuum created (as discussed above) by Poseidon's non-availability to Britain, Chevaline emerged as the solution to Britain's continuing strategic requirements. When the United States decided to pursue Poseidon and the MIRV concept, she abandoned continued research and development work on the less technologically advanced systems to penetrate ABM barriers. Poseidon had won the day: the United States was now totally committed to nuclear delivery systems with a MIRV configuration.[257]

This departure proved to be a window of opportunity for British scientists and engineers. They chose to exploit fully the potential heretofore only barely revealed in the existing intermediate technology. Britain decided to redirect her own research and development away from work on a MIRV warhead and focus efforts on a redesigned warhead for the Polaris missile that would assure penetrability and greater accuracy through warhead hardening and the utilization of decoys.[258] A research program to develop miniaturized thermonuclear warheads was already in progress at the Aldermaston nuclear weapons research establishment. Aldermaston was already far along in this program by 1976, when it was assigned the additional task of developing the non-nuclear penetration aids (or decoys).[259]

The final achievement that was to be Chevaline came only after a number of seemingly insurmountable obstacles were overcome. The Chevaline project "turned out to be the most complex piece of weapon system engineering ever undertaken in Britain." "Fearsomely complicated" was the description of a senior defense scientist involved in the project.[260]

Realizing the technological complexity involved at the outset, the British government determined that a new managerial concept would have to be employed "to coordinate the efforts of an unusually large number of organizations, some in the U.S."[261] During the peak three years of development—between 1977 and 1980—it was estimated that about fifty companies, four government defense research centers, and some five thousand individuals were involved in the project.[262] The defence ministry chose as project chief, Fred East, Director of the Royal Armaments Research and Development Establishment (RARDE) at Fort Halstead. East approached his assignment with experience in almost every previous British nuclear weapons program; he assembled a small project team around him at the defence ministry.

Aldermaston was joined by her sister research centers, the Propellants, Explosives and Rocket Motor Establishment, the Royal Aircraft Establishment, and the RARDE. All cooperated in the development of new propulsion systems for the Chevaline spacecraft and its payload.

Of the fifty private companies involved during the three peak years of the project, four played decisive roles; British Aerospace, for example, was highly instrumental in conducting some fourteen test firings and flight trials from Cape Canaveral, Florida, beginning in September 1977. Hunting Engineering, a firm credited with expertise in the aerodynamics of thermonuclear weapons, performed the structural design of the warhead. The complex computers and navigation equipment for Chevaline were developed by Sperry. A U.S. company, Bell Aerospace, provided technology on liquid fuel propulsion.[263] All companies were required to report their progress to the appropriate research center. British Aerospace reported directly to the flight trials director. The complexity of the project itself, the coordination of diverse companies, contractors, and thousands of personnel, when combined with the great secrecy imposed throughout, give an impression strikingly reminiscent of the Manhattan Project.

British "Dependence" and the Special Relationship. The degree of participation in Chevaline by American defense contractors can lend itself to an assumption that Britain had become technologically dependent upon the United States in nuclear weapons development. "Dependence" however, may be a poor descriptive, because regardless of what the United States chooses to transfer in the way of nuclear weapons technology, Britain has never in any way abridged her sovereign right to launch nuclear weapons unilaterally.

In Britain's case, therefore, national sovereignty over the exercise of her nuclear deterrent has been and is the key variable sustaining the relationship between Britain's nuclear intentions and capabilities on the one hand and her reliance upon the U.S. for key elements in her nuclear program on the other. Confusion over this relationship has all too often sustained a conventional wisdom which contradicts the reality. The fact is that British reliance on the United States for support of various aspects of her nuclear weapons program has actually enhanced the independent nature of the British nuclear deterrent. It is somewhat of a paradox that "while Britain has been obliged to look to the United States as a source of strategic delivery vehicles, contingency planning for their use has increasingly allowed for a greater range of independent action, apparently in pursuit of a standing alone option."[264] Since this capability has given Britain the requisite "operational independence," she is given the instrumentality

thereby to make an "attempt to exert influence over current Alliance nuclear policy."[265] Thus, if "dependence" upon the U.S. has been an additional factor allowing Britain greater operational independence, it is a strange and paradoxical dependence indeed that also allows Britain to exert influence over U.S. policy. In an analytical *tour de force*, Freedman and his colleagues have observed this relationship to be a clever British stratagem, utilizing dependence as an instrumentality by which to secure greater interdependence with the United States:

> Dependence on American nuclear hardware, it might be argued, had eased Britain into United States nuclear policy-making, since the way to be consulted was to make consultation necessary.[266]

Dependence thus becomes for Britain the *beginning* of policy influence rather than its object. If this is so, then dependence in this context needs to be redefined in terms of the results it obtains for Britain vis-à-vis the United States in the policy arena. These results are but a function of the operational independence of Britain's nuclear deterrent.

Nuclear capability—British nuclear capability—thus functions as the mother of consultative necessity. In any event, in Britain's case, this dependence or cooperative interchange with the United States should not be interpreted as a status in which Britain lacks sovereignty over her nuclear deterrent. British dependency in the context of the special relationship, therefore, has a special meaning. Dependence is not an example of a two-key system for firing, with the United States retaining custodianship over one or both of the nuclear keys. The reality is, rather, an explicit example of the application of sovereign, nation-state power:

> The lack of self-sufficiency only really matters if it interferes with *operational* independence. This is a matter of degree and is contingent on the timing and extent to which the British could operate in a nuclear crisis in the face of active American attempts to prevent this (which, some suggest, might even include an American antisubmarine warfare [ASW] effort against the British nuclear-powered ballistic missile submarines. Although problems could arise if American communications and navigational satellites were unavailable, it would seem that if a British Prime Minister wanted to launch a nuclear strike, it would be difficult for the United States to physically prevent this.[267]

So much for the contention that Britain's dependence on the United States in any way abridges Britain's sovereign right to take independent action using strategic nuclear weapons.

Performance Characteristics and Strategic Assessment. While Chevaline was secretly developed, the performance characteristics of the weapon system have nevertheless been discussed in the open literature. What has been revealed is an awesome, death-dealing instrument of destruction, as the following description makes clear:

> "Chevaline" . . . is reported to consist of a maneuvering spacecraft (post-boost vehicle) on each missile loaded with two or three warheads and a large number of balloon decoys. The warheads (themselves inside balloons to make them indistinguishable from the decoys) are directed at the same target area but on a number of widely differing trajectories. In order further to enhance penetration all of one submarine's missiles are fired at the same target area, the payloads being timed to appear simultaneously to present the largest number of threats on enemy radar. The warhead balloons and decoy balloons were specifically designed to exhaust the exo-atmospheric "Galosh" antiballistic missile (ABM) system defending the Soviet capital.[268]

The single strategic factor inherent in the Chevaline system which rendered it so awesome was revealed to the House of Commons by the defence minister in January 1980. Britain's Polaris force, said Mr. Pym, was now "*effectively invulnerable to preemptive attack.*"[269] Here again, we can date with specificity another milestone in the historical evolution of Britain's independent nuclear deterrent. On the basis of these demonstrated capabilities then, we are in a position to examine the consequences of Chevaline in terms of the strategic calculus.

The Chevaline project reconfirmed Britain's ingenuity at complex problem-solving, engineering, and building on the Polaris experience, her expertise in the utilization of highly sophisticated organizational skills to manage a program of Chevaline's complexity. Britain's great achievement in this effort cannot be ignored, notwithstanding the critical assistance rendered by American companies during the course of the program.

One measure of that achievement is indicated by the apparent lack of American success at finding a solution to the continuing strategic defence problem of "midcourse discrimination above the atmosphere." As late as 1992, an American interceptor rocket known as the Exoatmospheric Re-entry Vehicle Interceptor System (ERIS) failed to destroy a mock warhead carried by a land-based Minuteman ICBM in a Pacific test-firing. The ERIS interceptor rocket was designed to intercept an approaching warhead and destroy it by impact. In the 1992 test failure it was reported "that the interception failed in

part because a balloon decoy deployed with the mock warhead was farther from the warhead than planned." The purpose of the decoy "was . . . to simulate the kinds of defensive techniques that a real [ICBM] would use to try to fool an interceptor. A real missile would carry numerous decoys, as well as chaff and other false targets."[270] It would appear that this technical problem has plagued American engineers for many years. A 1984 report sponsored by the Center for International Security and Arms Control at Stanford University concluded; "No one has yet solved the original problem which plagued the Nike Zeus project in the 1950's—how to tell the real [warheads] from decoy and sensor noise."[271]

Assuming that the Soviet Union was similarly unsuccessful, Francis Pym's remarks about the invulnerability of Britain's Polaris fleet as a result of Chevaline has a much clearer contextual basis. It is just this context that renders to Chevaline the extraordinarily high deterrent value which it has enjoyed. In the final analysis, Britain's achievement with the Chevaline project must be measured against that standard.

The Royal Navy held acceptance trials for Chevaline, as scheduled in January 1982. The SSBN, HMS *Renown*, successfully launched a missile, armed with the Chevaline warhead, thirty miles off the Florida coast on 30 January 1982.[272] The *Renown* and her sister, HMS *Revenge*, underwent refit to receive Chevaline warheads in 1982. By 1984, the Chevaline was deployed on all four Polaris submarines.[273]

By thus reconfirming Britain's position as a key player in the strategic nuclear arena, Chevaline kept Britain "in the nuclear game." As David Fishlock, was to observe, Chevaline's development "has now brought Britain abreast of the latest U.S. developments in warheads for ballistic missiles."[274] Only then was Britain able to harvest the fruit of her labors—access to Trident, the third-generation nuclear deterrent. As a high-value strategic asset, Chevaline was to be used as a bargaining counter in Britain's acquisition of Trident missiles from the United States. Trident would greatly enhance the number of target options available or open to British attack, including hardened military targets, which she could acquire with an attack not possible heretofore.

Trident II: The Third Generation

Britain's development of Chevaline was a very great political and strategic achievement, but success was purchased at a terribly high price. Whereas the entire Polaris program cost £1.7 billion at 1980 prices, the Chevaline upgrade

would burden the government with costs of almost 60 percent of the original Polaris budget (i.e., an additional £1 billion).[275]

This demand for a Polaris replacement warhead came less than a decade into the life cycle of a program that had been scheduled to last until the 1990s. Britain, therefore, could not easily afford so soon afterward to bear the cost of a similar program for its third-generation deterrent. And yet Britain required a new nuclear deterrent if she intended to continue as a nuclear power into the twenty-first century. Trident was the solution to this requirement.[276]

The decision to acquire a third-generation strategic system was announced in Parliament in July 1980. Commenting on the inherent strategic capabilities of Trident, The *New York Times* military affairs correspondent observed, "There can be no doubt that acquisition of the Trident would transform Britain's nuclear stance."[277] The Trident missile—for which Britain would manufacture the warheads—has a range in excess of four thousand nautical miles.

In March 1982 the British government announced that it had decided to forgo purchase of the Trident I C4 missile system and purchase instead the more advanced Trident II D5, for £7,000m. This action occurred just before the outbreak of the Falklands War, at a time of planned decline for the Royal Navy. Britain's reversal was actually precipitated by President Ronald Reagan's announcement that the Trident D5 would be entering U.S. naval service in December 1989. This was earlier than planned, and in any event before Britain's own Trident I was to be deployed.[278] Britain had, of course, faced similar dilemmas before. As Prime Minister Thatcher was to explain, "If we were still to go ahead with Trident I we risked spending huge sums on a system that would be outdated and increasingly difficult to maintain as the Americans went over to Trident II."[279] The British did not wish "to be caught again with the 'logistical, operational and financial penalties' of deploying a system soon to be replaced in the American inventory."[280]

In any event, the prime minister determined to follow a course that would successfully bond a strategic imperative to economic realities: "The more we considered the question the more it seemed that if we were to maintain a credible deterrent, which I was utterly determined we should do, we must indeed have the Trident II. But we must get it on the best possible terms."[281] The American terms for the Trident II were especially favorable, more advantageous even than for Trident I. Under the new arrangement, Britain was to be "protected . . . completely from escalation of development costs." The U.S. would "waive certain provisions of the Buy American Act and advise British industry on how they could compete, *on equal terms* with American industry, for subcontracts for

weapon system components for the program as a whole, including the American program."[282]

Nevertheless, this arrangement was arrived at only after hard bargaining on both sides. The British had fought to secure a fixed percentage of subcontract work for their companies. Final agreement was reached allowing Britain to purchase the Trident II D5 missile at the same price paid by the United States Navy, in accordance with the terms of the Polaris Sales Agreement. Equally significant was the fact that "the additional overheads and levies would be lower than would have been the case under the 1980 agreement to purchase Trident I."[283] Furthermore, it was agreed that Britain would not demand a separate stockpile of Trident missiles, but rather would share the assembly and refurbishment facilities at the U.S. Naval Submarine Base at King's Bay, Georgia.[284] This arrangement would result in considerable savings for Britain just when expenditures for the Royal Navy were coming under increasing pressure for reduction.

But whatever the financial burdens to be borne, they were more than justified by the degree of deterrence purchased. For Prime Minister Thatcher, the credibility of the British nuclear deterrent was not a matter of ambiguity, but of clarity. In the prime minister's lexicon, credibility was less a function of alliance—in particular, American reliability—than it was of Britain's capability as a sovereign, thermonuclear-armed nation-state, to wit:

> It was the Soviet perception of the strategic threat which would ultimately determine its credibility—and whatever doubts they might have about America's willingness to launch strategic weapons in defense of Britain, they would never doubt that a British Conservative Government would do so.[285]

According to an authoritative account, in the mid-1980s, Britain's Polaris force was capable of attacking every city with a population of 1 million or more in the then Soviet Union. With the acquisition of the Trident II, that capability would be enhanced, bringing *all* Soviet cities with populations over a hundred thousand under threat of annihilation.[286] Given this capability, and in light of the political disintegration of the Soviet Union, what added value, if any, does the Trident purchase bring to Great Britain? The imminent deployment of Trident by the Royal Navy has stimulated a debate on this subject among the informed public in Great Britain.[287] Perhaps the clearest rejoinder to the implicit overkill presumption surrounding Trident was offered by Lord Ian Orr-Ewing. At the time of the Polaris Agreement in 1962-1963, Lord Orr-Ewing was Civil Lord of the Admiralty. In a letter to the editor of *The Times*, he declared that

any agreed upon reductions in American and former Soviet nuclear stockpiles, due to the passing of the Cold War, were "completely irrelevant [to Britain's] need to replace Polaris by Trident." The operative doctrinal assumptions offered were cogent:

> First, we have always followed a policy of minimum strategic nuclear deterrence. This means having enough nuclear warheads capable of inflicting an absolute—not a relative—level of damage on a potential attacker sufficiently great to deter him from nuclear aggression. The superpowers have not followed such a policy, acquiring instead enormously bloated nuclear stockpiles.
>
> Just as we decided our minimum nuclear requirements in the past without reference to superpower totals when they were dramatically rising, so we must choose our minimum requirements for the future without reference to those totals now they are due to fall.
>
> Secondly, in determining the number of warheads needed for the next 30 years, we must choose a system sufficiently flexible to constitute a minimum deterrent not only at the start but also at the end of that 30-year period. . . .
>
> Rigidly to choose exactly the same warhead total for the next 30 years as has sufficed as our minimum since the Chevaline upgrade is to assume that proliferation dangers and ABM defenses will not increase and improve respectively during the lifetime of Trident. That would be a reckless assumption.[288]

Resonating through this analysis were the first principles of British policy articulated by Winston Churchill so many years before, a public testimony, if one were needed, to their continuing validity. Their transcendent nature may be discerned in the comments of the then defence minister, Tom King, as Britain's first Trident submarine, HMS *Vanguard*, was unveiled to the public in March 1992:

> We will ensure that at all times there is one nuclear deterrent submarine on patrol, unseen, undetectable and unattackable. That submarine will carry the minimum load necessary to ensure the credibility of our deterrent against any potential aggressor.[289]

In any event, in the British view, Trident is not a redundant weapon system which adds little if any value to the strategic power equation. Rather, Trident is the *sine qua non* for Britain's continued standing as a nuclear power in the unstable period lying just ahead. As Defence Minister King put it:

> Our independent strategic nuclear deterrent has been the ultimate guarantee of our security. In these uncertain times, Trident will assume that role.[290]

In the final analysis, Trident was purchased on the equity of the independent nuclear deterrent Britain had conceived, nurtured in development, and deployed. The struggles of previous generations of British leaders to obtain American strategic systems were minimal in comparison with the case of Trident. The act of acquisition was therefore a confirmation of Britain's continuing status as a nuclear power actor in the world and of the continuing resilience of the special relationship prevailing in nuclear weapons between the United States and United Kingdom governments.

But what of the future of British deterrence? What are Britain's objectives and options in the new world order? The answers to these questions should assist us in our efforts to understand the British approach to nuclear deterrence.

III

Objectives

The Past Is Prologue

GREAT BRITAIN'S SEARCH for an independent nuclear deterrent has been waged with a purposeful dedication. Her quest has been characterized by a clear commitment to Churchill's first principles of national interest; brilliant, innovative feats of engineering; and a statecraft that has proved masterful. Britain's great success in this endeavor must be seen in the context of American policies, which have varied in tone from cooperation to ambivalence, and from hostility to quarantine. Britain's success in overcoming the obstacles placed in her way is a tribute to her policy management skills. From the British perspective, while American cooperation has been achieved, American rejection of Britain's nuclear pretensions *a priori*, the concomitant periodic opposition to Britain's vital interests (such as at Suez), along with the hints of strategic "decoupling" from Europe heard in these last years, have encouraged British officials to question the reliability of the United States. From each painful experience at American hands, whether it was the McMahon Act, Suez, the Skybolt crisis, or the acquisition of Poseidon, Britain has drawn painful conclusions, sometimes fairly, other times unfairly. Such conclusions have had a perverse effect upon Anglo-American relations, for they have legitimized the nationalist tendencies—the "stand alone" themes—in British nuclear deterrence doctrine.

To understand why a nation seeks to become a nuclear power is to understand the forces that drive the calculus of power in the world. Many years ago, Lester

B. Pearson, a former Canadian prime minister and Minister for External Affairs, observed that there were "nuclear powers and Nuclear Powers." And, just as in the days of Thucydides, when Melian "power" did not equate with the power of either Athens or Sparta, Pearson pointed out the existential nature of the disparities that exist in our own time between nuclear-armed nations:

> True, we enjoy all the old-fashioned pride and privileges of sovereign independence. But it is also true that this sovereignty does not give us control over the decisions which determine our destiny. You have to be a superpower with the hydrogen bomb to enjoy all the attributes of sovereignty now—and, perhaps not even then.[291]

Prime Minister Harold Macmillan's systematic defense of Britain's pursuit of a hydrogen bomb, at a time when the United States already enjoyed possession, is therefore illustrative:

> It is a good thing we should have an independent contribution to the deterrent. I am interested to see that some of the people who don't want to have it are the most hostile to the United States and are more anxious that our policy should not be subservient to the United States. The independent contribution . . . gives us a better position with respect to the United States. It puts us where we ought to be, in the position of a great Power.[292]

The independent deterrent, then, was Britain's instrument to achieve the great power position which alone would facilitate the furtherance of her most vital interests. To secure those interests, therefore, meant having a nuclear "voice." Macmillan's successor, Sir Alec Douglas-Home, spoke to this issue:

> Britain's nuclear arm is our sole defense against blackmail by a nuclear power and it is our passport to the highest councils of the world where matters of peace and war are decided in the nuclear age.[293]

Britain's quest for an independent deterrent, then, was never a quest for prestige or status, was never sought as an end in itself, but as a strategic instrument to allow Britain to project a great power voice in the Council of Nations. Britain's past success in this effort should be viewed as an accurate prologue for the future.

Britain has been conventionally portrayed in the literature as a "Medium Power," an appropriate label if the criterion is only quantitative: the *relative* number of nuclear missiles and warheads in a nation's inventory.[294] If, however, other criteria are applied—independent, sovereign command and control

over weapon systems, the configuration of the strategic systems deployable and their destructive capability, regardless of the warhead inventory—then the conventional labels might not apply so easily. Samuel P. Huntington has pondered this categorization question and provided another criterion beyond that mentioned to take the true measure of a nation-state. Wrote Professor Huntington, "The ultimate test of a great power is its ability to renew its power."[295] In light of the evidence that I have presented, Britain not only fits this paradigm but is its prime exemplar.

Future Trends

The end of the Cold War and the passing of the Soviet threat, such as it existed, has not meant a concomitant "end of history" or an end to disorder and threat of war. Indeed, the very instability of Russia and the uncertainties there resulting from economic chaos and the rise of nationalist xenophobia compel Britain to retain her "Moscow option" as a strategic hedge and ultimate deterrent. Speaking at an international conference on security, held in Munich on 5 February 1994, Malcolm Rifkind, the minister of defence, warned that Russia's designs on her neighbors constituted the most immediate short-term security threat.[296]

Britain's long-term objectives were revealed in a seminal address given by Foreign Secretary Douglas Hurd to the Royal Institute of International Affairs in January 1993. Defining the purpose of British foreign policy, Hurd noted:

> British foreign policy exists to protect and promote British interests. . . . We are not going to achieve a total new order, by ourselves or with others. But an effort comparable to those of 1815, 1919 and the years after 1945 is needed if the international community is to avert a continuing slide into disorder. And in that effort Britain will be expected and will wish to play a worthy part.[297]

Presenting the contemporary international scene contextually alongside the other major watersheds of international history since 1815, Hurd signaled Britain's intention to be a major player on the world stage in the coming years. Left out of Hurd's remarks was the key element, without which Britain could not play the role to which she aspired, a role to set aright the "new disorder": possession of an independent nuclear deterrent.

As the old, familiar Cold War landmarks fade, new ones appear. Thus, Germany is once again united. The ancient lands of Eastern Europe and Russia are feeling renewal as sovereign nation-states, anxious to rejoin the West and the world community at large. The Arab nations and the Palestinian people

together are seeking to find common ground with Israel in an effort to settle one of the most intractable conflicts of the postwar period.

The United States too is undergoing profound change—turning inward to face domestic problems, even as she attempts to meet her foreign obligations. All this is taking place in a period of budgetary retrenchment and a downsizing of the nation's armed forces. In the midst of these changes, the strategic calculus itself may be shifting. Jacques Attali, the French economist and former president of the European Bank for Reconstruction and Development, has pointed out the alarming fact that

> . . . the ills that beset American society are likely to grow in severity, making it difficult for the United States to maintain its imperial posture without embracing the path of wholesale economic restructuring. . . . The impressive projection of massive American military force halfway across the World [in the Gulf war] blurs rather than illuminates the larger question of America's real position as a fading hegemonic power, not a revived one.[298]

Whether or not this grim "declinist" prophecy is fulfilled will depend on the strength of American economic, political, and military strategies needed to defeat it.[299] In the meantime, the United States will pay close attention to Britain's interests and, where necessary, heed her counsel.

The Physics and Metaphysics of Deterrence

As we move toward a new and as yet undefined world order, what stands out amidst the dynamics of change is the enduring nature of the Anglo-American special relationship. The enduring quality of this relationship, despite the transient incompatibilities of presidents and prime ministers, is a testimony to American pragmatism and British policy management. In this effort, Britain's prime ministers, from Attlee on, have proven themselves subtle practitioners of the art of statecraft. They have managed to keep high secrets even from Parliament when necessary, cajole American presidents to bend to their wishes, and develop nuclear weapons, the independence of which they have managed to preserve. With the solidification of the special relationship, Churchill's great strategic objective is confirmed: the binding of the United States to the United Kingdom in order to secure Britain's vital interests and to manage jointly the world power balance.

Britain's independent nuclear deterrent thus becomes the essential prerequisite for realization of an interdependent nuclear relationship with the United States. Hence, the special relationship, as a tie that binds, will not be broken for

the foreseeable future, because it cannot be broken. Nor, for that matter, should it be broken: both nations have too much to unite them, and a joint interest in the maintenance of world peace.

In the final analysis, Britain's possession of nuclear weapons should be understood in terms of Winston Churchill's observation about the dynamics—the physics and metaphysics—of strategic relationships. Speaking in a March 1955 parliamentary debate, Churchill declared:

> Personally, I cannot feel that we should have much influence over [American] policy or action, wise or unwise, while we are largely dependent as we are today upon their protection. We too must possess substantial deterrent power of our own. . . .[300] Then it may be that we shall, by a process of sublime irony, have reached a stage in this story where safety will be the sturdy child of terror, and survival the twin brother of annihilation.[301]

The evolution in the strategic calculus since that time allows Britain to assume a far more credible independent stance vis-à-vis the United States in world affairs than heretofore possible, even as the special relationship binds both nations ever closer together. And that, after all, has always been the principal objective of British policy.

Appendix

Table 1

British Defense Expenditures 1947–1957

£Million

	1947/48	1948/49	1949/50	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57
GNP[a]	11,021	11,070	11,784	12,466	13,731	14,817	15,952	16,921	19,277	20,892
Defense Expenditure[b]	930	740	770	827	1,102	1,465	1,548	1,543	1,490	1,570
Defense Spending as a % of GNP[c]	8.4	6.7	6.5	6.6	8.0	9.9	9.7	9.1	7.7	7.5
Strategic Nuclear Deterrent[d]	0.1	0.6	1.3	1.7	2.2	2.4	---	---	---	---
Research and Development[e]	11.0	16.4	16.8	21.5	28.5	35.3	---	---	---	---

Full notes to Table 1 and Graph 1 follow on pages 87–90.

British Defense Expenditures
1958–1967

£Million

	1957/58	1958/59	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67
GNP[a]	22,092	23,063	24,253	25,721	27,468	28,852	30,637	33,268	35,765	38,047
Defense Expenditure[b]	1,543	1,486	1,534	1,598	1,700	1,819	1,871	1,963	2,085	2,174
Defense Spending as a % of GNP[c]	7.0	6.5	6.3	6.2	6.2	6.3	6.1	5.9	5.8	5.7
Strategic Nuclear Deterrent[d]	---	---	---	---	---	---	186	186	228	160
Research and Development[e] **(Other R & D)**[f]	---	---	---	---	---	181.8	182.8	224.4	228	330 (33)

British Defense Expenditures
1968–1977

£Million

	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77
GNP[a]	40,026	42,873	45,625	50,429	57,793	63,928	74,204	84,307	105,184	125,635
Defense Expenditure[b]	2,363	2,391	2,280	2,420	2,545	2,854	3,365	3,667	4,548	5,632
Defense Spending as a % of GNP[c]	5.9	5.6	5.0	4.8	4.4	4.4	4.5	4.3	4.3	4.5
Strategic Nuclear Deterrent[d]	144	126	92	56*	54	38	39	48	58	78
Research and Development[e]	300	285	268	246	284	330	418	456	554	699
(Other R & D)[f]	(32)	(27)	(23)	(17)	(19)	(37)	(51)	(78)	(109)	(139)

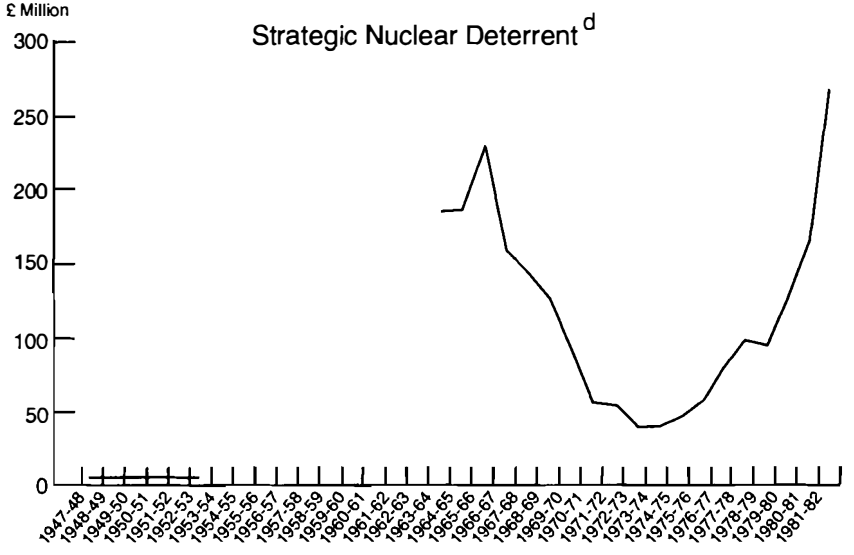
British Defense Expenditures
1978–1982

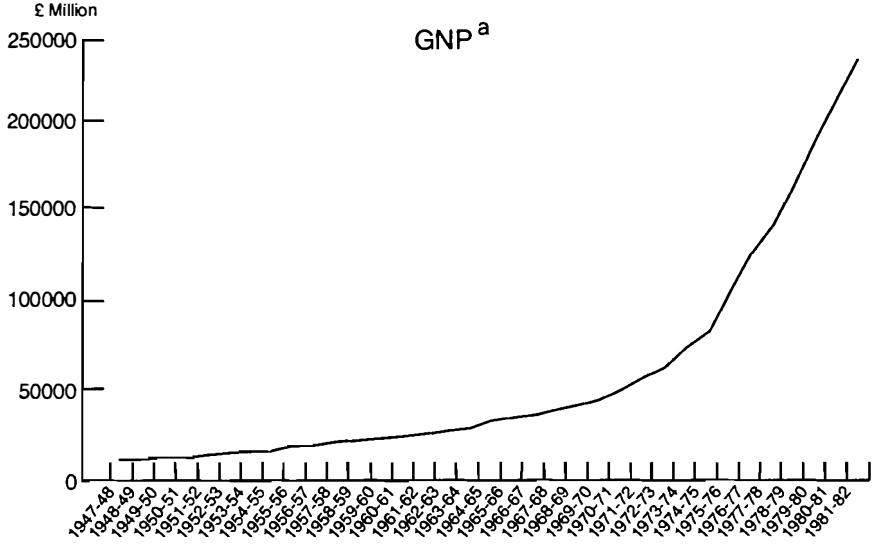
£Million

	1977/78	1978/79	1979/80	1980/81	1981/82
GNP[a]	143,110	164,554	189,991	215,000	236,656
Defense Expenditure[b]	6,329	6,919	8,558	10,785	12,274
Defense Spending as a % of GNP[c]	4.4	4.2	4.5	5.0	5.2
Strategic Nuclear Deterrent[d]	96	93	126	165	269
Research and Development[e]	823	872	1,151	1,479	1,676
(Other R & D)[f]	(158)	(161)	(184)	(251)	(Data Not Available)

Graph 1

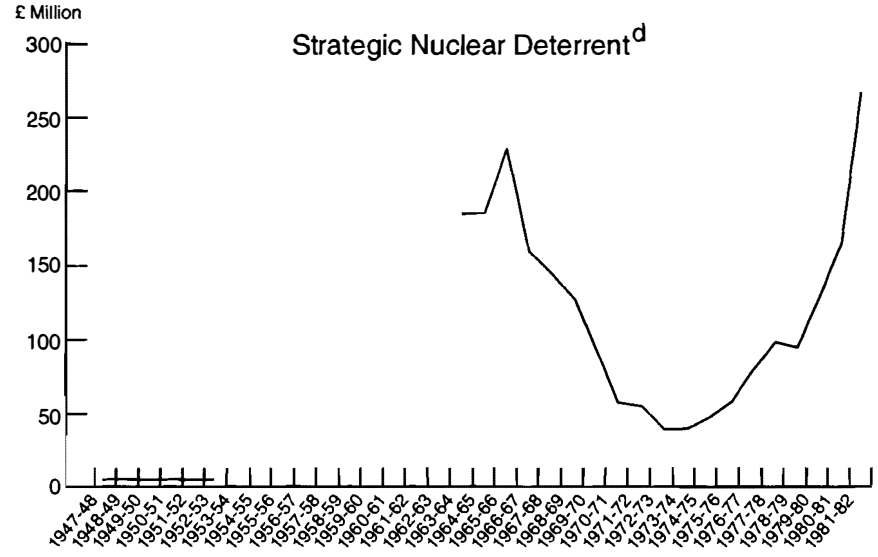
British Defense Expenditures: 1947-1982

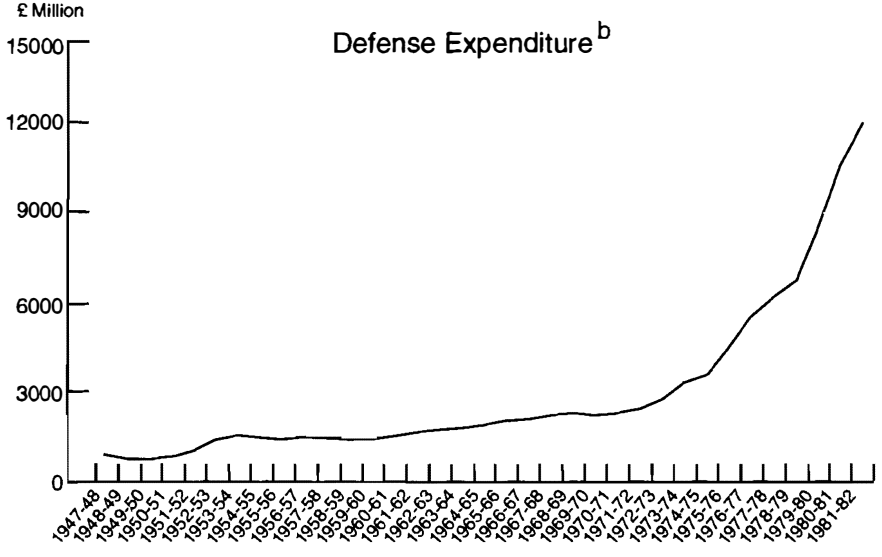




Graph 1

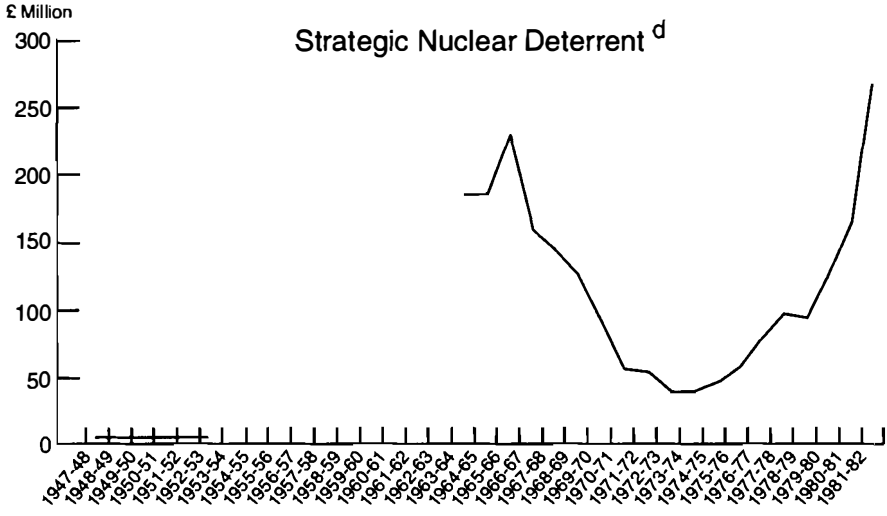
British Defense Expenditures: 1947-1982

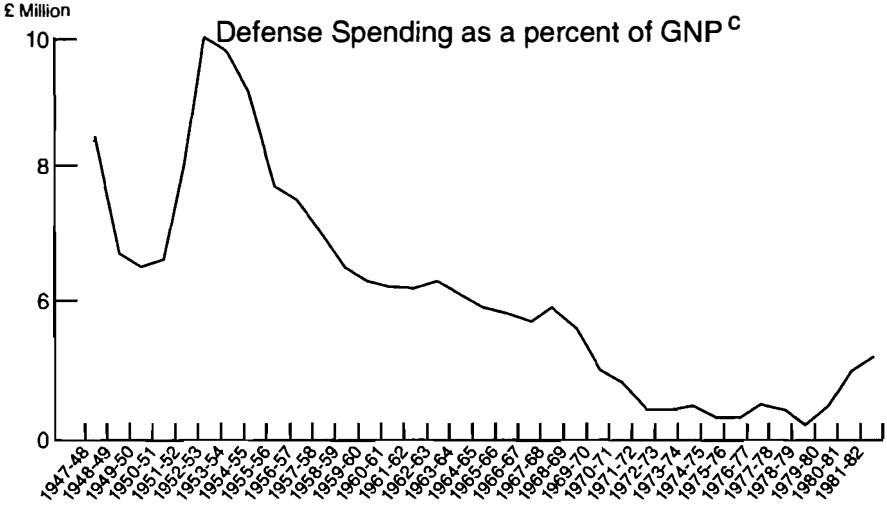




Graph 1

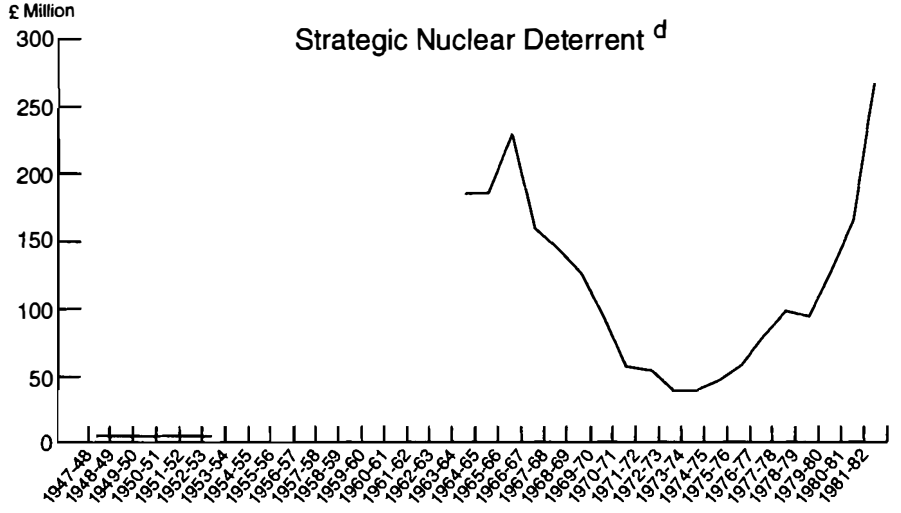
British Defense Expenditures: 1947-1982

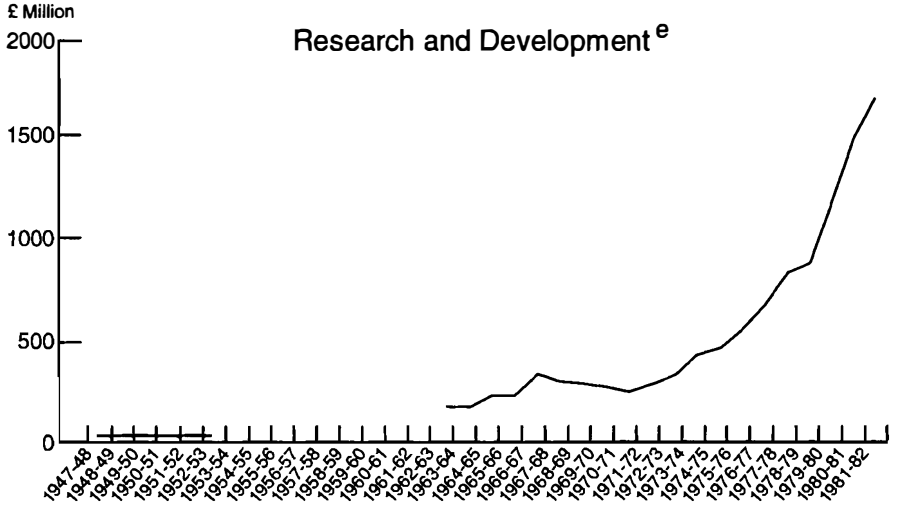




Graph 1

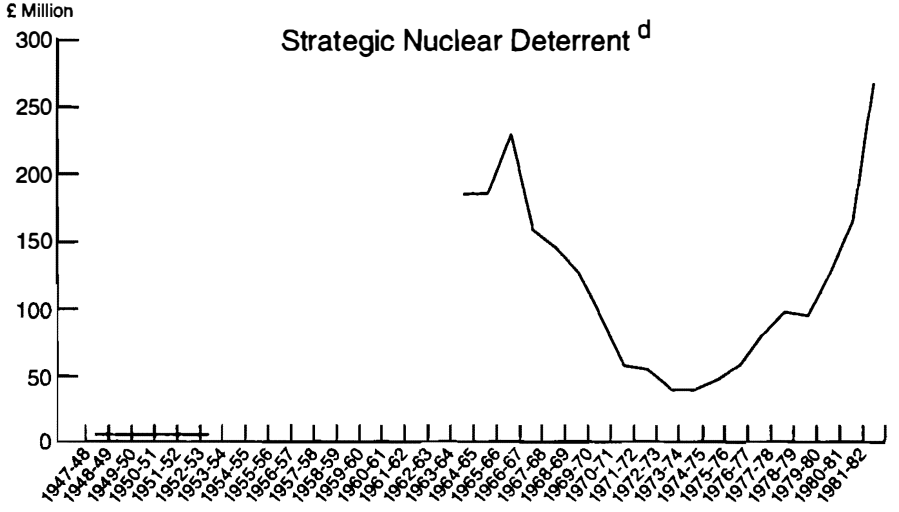
British Defense Expenditures: 1947-1982

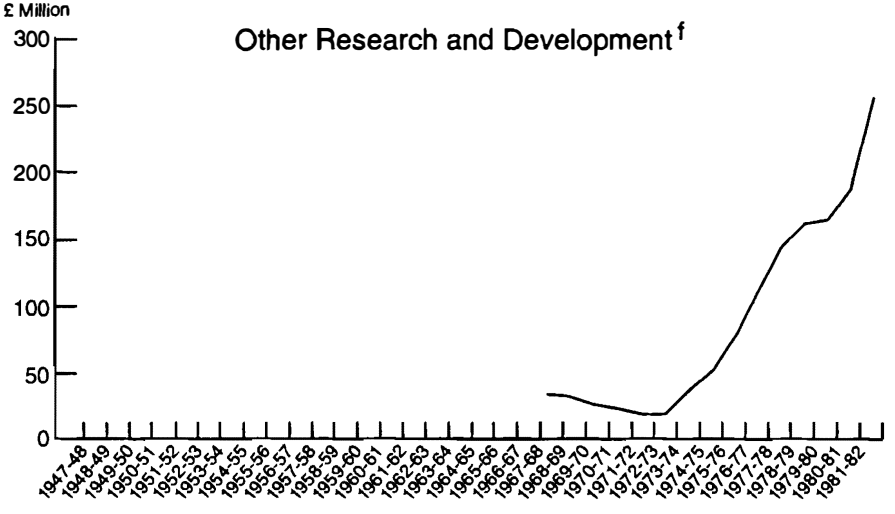




Graph 1

British Defense Expenditures: 1947-1982





Notes to Table 1 and Graph 1

The discrete nature of Britain's nuclear deterrence program has always prevented an accurate assessment of cost allocations. In the past, funds for atomic and thermonuclear research, development, and deployment have been successfully hidden under other budgetary categories. Thus, H.M. Central Statistical Office has chosen to issue the following caveat in its *Annual Abstract of Statistics*: "Because of changes in the responsibilities of the Ministry of Defence, expenditures in successive years are not necessarily comparable." See Great Britain, Central Statistical Office, *Annual Abstract of Statistics*, 1981 ed. (London: H.M. Stationery Office, 1981), Table 7.2, Defence budget: Annual expenditures [1] [2], p. 190, n. 3. Accepting this statement at face value, it nevertheless appears that the official data do reveal a consistent pattern of growth in the strategic nuclear deterrent. Consequently, while the actual budgetary allocations in the strategic sectors are most likely obscured for reasons of national interest, those data that have been made available in the public domain do reveal a consistent, if cyclical, pattern of growth in the evolution of British strategic deterrence forces. It is the structure of that growth factor that I have endeavored to illuminate.

[a]For data on GNP covering the years 1947-48 to 1970-71, see Great Britain, Central Statistical Office, *National Income and Expenditure* (London: H.M.S.O., various years). Quoted in Pierre, *Nuclear Politics*, Table 1, p. 343.

GNP data for the years 1971-72 to 1979-80 may be found in Great Britain, Central Statistical Office, *Annual Abstract of Statistics*, 1981 ed., Table 14.1, Gross National Product by Category of Expenditure, p. 345.

GNP data for 1980-81 is the author's own estimate.

GNP data for 1981-82 may be found in Great Britain, Central Statistical Office, *Annual Abstract of Statistics*, 1988 ed. (London: H.M. Stationery Office, 1988), Table 14.1, Gross National Product by Category of Expenditure.

[b]Defense expenditures for 1947-48 to 1970-71 are referenced in Pierre, *Nuclear Politics*, Table 1, p. 343.

For the years 1971-72 to 1978-79, see Great Britain, Central Statistical Office, *Annual Abstract of Statistics*, 1981 ed., Table 7.3, Defence budget: functional analysis of the annual estimates, p. 190.

For the years 1981-82, see Great Britain, Central Statistical Office, *Annual Abstract of Statistics*, 1982 ed. (London: H.M. Stationery Office, 1982), Table 7.3, Defence budget: functional analysis of the annual estimates, p. 189.

[c]Data on Defense spending as a percentage of GNP for the years 1947-48 to 1970-71, may be found in Pierre, *Nuclear Politics*, Table 1, p. 343.

The 1980–81 rate is an estimate based on the author's projection of 1980–81 GNP.

[d]Data on strategic nuclear deterrent expenditures for the years 1947–48 to 1952–53 inclusive includes expenditures on atomic weapons, expenditures for the Royal Ordnance Factories where weapons fabrications were undertaken, as well as on other armaments relative to the atomic bomb project. Source: Margaret Gowing, *Independence and Deterrence: Britain and Atomic Energy, 1945–1952: Vol. 2, Policy Execution* (New York: St. Martin's Press, 1974), Appendix 16, Atomic Energy Annual Expenditure: Table 1 Annual Expenditure, January 1946–March 1953, p. 85.

Further data by year are not available prior to 1963–64.

1963–64 data are from Freedman, *Britain and Nuclear Weapons*, Appendix 3, Expenditure on Nuclear Weapons, p. 144.

Data for 1965–66 to 1971–72 have been aggregated as follows: V-Bomber costs, Polaris costs and Special Materials costs. Source: U.K., Annual Defence Estimates; Twelfth Report from the Expenditure Committee, Session 1972–73, Ministry of Defence. Quoted in Freedman, *Britain and Nuclear Weapons*, Appendix 3, Expenditures on Nuclear Weapons, p. 144. With reference to "Special Materials," Freedman notes: "'Special Materials' included materials for nuclear warheads and bombs and for the propulsion units of all nuclear submarines. This line item did not appear separately after 1971–72. This is now incorporated into the figure for strategic nuclear forces of which it constitutes a small proportion." *Ibid.*

	V-Bomber Force	Polaris	Special Materials	Total
1965–66	£186m		£42m	£228m
1966–67	45m	£60m	55m	160m
1967–68	39m	65m	40m	144m
1968–69	25m	70m	31m	126m
1969–70	5m	55m	32m	92m
1970–71	*	32m	24m	56m
1971–72		34m	20m	54m

*Beginning in 1970–71, the V-Bombers were no longer counted as strategic nuclear deterrent forces, but listed under another line item in the Annual Budget.

Data for 1972–73 to 1980–81 are from Great Britain, Central Statistical Office, Annual Abstract of Statistics, 1981 ed., Table 7.3, Defence budget: functional analysis of the annual estimates, p. 190.

Data for 1981–82 are from Great Britain, Central Statistical Office, Annual Abstract of Statistics, 1982 ed., Table 7.3, Defence budget: functional analysis of the annual estimates, p. 189.

[e]Whereas the first U.K. atomic test was not carried out until October 1952 at Monte Bello, the heavy expenditures on atomic weaponry during the period 1947-48 to 1952-53 fell in research and development activity. Accordingly, for those years I have listed the net total, Atomic Energy Annual Expenditures, *minus* the allocations for "Weapons expenditure," which are listed above, at n.d. Source: Gowing, *Independence and Deterrence: Vol. 2, Policy Execution*, Appendix 16, Table 1, p. 85.

In any case, bomber squadrons armed with atomic bombs were not operational until late 1956. See Freedman, *Britain and Nuclear Weapons*, p. 4.

After the years 1952-53, no further data are available again until 1962-63. Data for 1962-63 and 1963-64 as well as 1964-65 are from Great Britain, Central Statistical Office, *Annual Abstract of Statistics*, no. 102, 1965 ed. Table: Exchequer revenue and expenditure, p. 269. A footnote indicates that "Atomic Energy vote expenditure is divided between Defence and the civil item 'Universities and Scientific Research.'" See *ibid.*, p. 269, n. 6.

The data listed on the top line for the years 1966-67 to 1981-82 are from Great Britain, *Annual Abstract of Statistics*. For 1966-67 to 1976-77, see 1976 ed., Table 180, Defence budget: functional analysis of the annual estimates, p. 187. For the years 1977-78 to 1981-82 inclusive, see 1982 ed., Table 7.3, Defence budget: functional analysis of the annual estimates, p. 189.

Note: Table 7.3, Defence budget: functional analysis of the annual estimates does not appear in the *Annual Abstract of Statistics* after 1982.

[f]Freedman has disaggregated research and development data to isolate R & D devoted exclusively to the strategic nuclear deterrent. This disaggregation has been termed "other R & D." Accordingly, for the years 1966-67 to 1979-80, Freedman's "Other R & D" will be listed directly beneath those research and development data noted above, at n.e., and for purposes of differentiation will be placed in parentheses. Freedman's rationale is as follows: "R & D in the strategic forces is covered under the heading 'other R & D.' This also includes expenditure on the management of the whole R & D effort in MOD, work undertaken using MOD facilities and personnel for other government departments, and also work on tactical nuclear weapons." Freedman, *Britain and Nuclear Weapons*, Appendix 3, "Expenditures on Nuclear Weapons," p. 144.

In keeping with a consistent format, the second (i.e., bottom) R & D expenditure on nuclear weapons for 1980-81, is the author's own estimate. Since the R & D expenditure for nuclear weapons was 18 percent of the total research and development expenditure for defense in 1978-79, and 16 percent of that for 1979-80, the author has projected the R & D for nuclear weapons, expressed in parentheses, to be approximately 17 percent of the total estimated

R & D for defense in 1980–81, or £1.479m. No further "Other R & D" data are available to date.

For the statistical correlation between the strategic nuclear deterrent and the other variables treated here, see Table 2 and the accompanying data analysis.

Table 2

Dissimulation as Stratecraft
Analysis of British Defense Expenditures
Utilizing Least Squares Estimation
by Cochrane-Orcutt Type Procedure

Dependent Variable = Strategic Nuclear Deterrent (15 Observations)

Variable name	Estimated Coefficient	T-Ratio 11 DF
Defense Spending as a % of GNP[c]	73.749	10.915*
Research and Development[e]	0.47582E-01	0.97509
Other Research and Development[f]	0.17353	0.69707
Constant	-302.25	-9.3471

*Statistical significance = 10 or higher

See analysis of data in Table 2 on page 92.

For references to note c, e, and f, see Notes to Table 1 and Graph 1 on pages 87–90.

Table 2
Data Analysis

As indicated in Table 2, multiple regression analysis with correlated disturbances was performed using the Cochrane-Orcutt Type Procedure. The data analysis did not reveal any linear growth in the strategic nuclear deterrent forces of the United Kingdom. Rather, that growth has been cyclical over the period examined, with the strategic deterrent being a principal beneficiary of the expansion in defense spending as a percentage of GNP.

A multiple regression analysis was performed in order to determine which variables or elements in British budgets, over time, correlated with the strategic nuclear deterrent in a statistically significant way. For this purpose, therefore, the strategic nuclear deterrent was held to be the dependent variable. The independent variables examined in some fifteen observations were: Defence spending as a percentage of GNP, Research and Development, "Other Research and Development."

Findings

The principal findings were quite revealing, for they demonstrated that dissimulation was not applied to "prestige" alone as a justification for possession of the deterrent, but to the budgetary data as well. Thus, the research and development allocation, taken as an independent variable, was *not* found to be significantly correlated with the strategic nuclear deterrent. Hence, research and development data must be considered *statistically* irrelevant in terms of any correlative relation to the growth of the strategic nuclear deterrent.

Similarly, "Other Research and Development," when held to be an independent variable, was *not* significantly correlated with the strategic nuclear deterrent. Therefore, "Other R & D" ought to be considered a null variable, statistically irrelevant. British attempts to insinuate "Other R & D" along an audit track for allocation to the strategic nuclear deterrent, notwithstanding the statistical *irrelevance* of such a correlation, merely confirms in a rather definitive way that the process of dissimulation continues as statecraft.

It should be noted that Defence spending, taken as a percentage of GNP, *was* found to be significantly correlated with the strategic nuclear deterrent. Defence spending as a percentage of GNP appears to capture both GNP data and defence expenditure data as components. In any event, the statistical relationship with the strategic nuclear deterrent was found to be both significant and positive for Defence spending as a percentage of GNP.

A more complete data analysis is available upon request from the writer.

Notes

1. Sir Michael Howard, review article, "Shooting at a Moving Target," *The Times Literary Supplement* (London), 13 march 1992, p. 7.

2. The exceptions are, on the American side, Andrew J. Pierre, *Nuclear Politics: The British Experience with an Independent Strategic Force, 1939–1970* (London: Oxford Univ. Press, 1972); Richard N. Rosecrance, *Defense of the Realm: British Strategy in the Nuclear Epoch* (New York and London: Columbia Univ. Press, 1968); Peter Malone, *The British Nuclear Deterrent* (London and Sydney: Croom Helm, 1984). See also my earlier treatment of this theme in Myron A. Greenberg, "Physics and Metaphysics of Deterrence: The British Approach," paper delivered at the 30th Annual Meeting, International Studies Association, University of London, London, United Kingdom, 28 March-1 April 1989; George M. Seignious II and Jonathan Paul Yates, "Europe's Nuclear Superpowers," *Foreign Policy*, no. 55, Summer 1984, pp. 40–53.

For British scholarship, see Peter Nailor and Jonathan Alford, *The Future of Britain's Deterrent Force*, Adelphi Papers, no. 156 (London: International Institute for Strategic Studies, Spring, 1980); Ian Clark and Nicholas J. Wheeler, *The British Origins of Nuclear Strategy, 1945–1955* (Oxford: Clarendon Press, 1989); see also, Lawrence Freedman, *Britain and Nuclear Weapons* (London: Macmillan Press, Ltd., for the Royal Institute of International Affairs, 1980); Lawrence Freedman, Martin Navias, and Nicholas Wheeler, *Independence in Concert: The British Rationale for Possessing Strategic Nuclear Weapons*, Nuclear History Program, Occasional Paper 5, July 1989. The Nuclear History Program, formerly located at the University of Maryland, has moved to San Diego State University, 6330 Alvarado Court, Suite 201, Room F, San Diego, Calif. 92120. An invaluable source by the Official Historian of the United Kingdom Atomic Energy Authority (UKAEA) is to be found in Margaret Gowing, *Independence and Deterrence: Britain and Atomic Energy, 1945–1952: Vol. 1, Policy-Making* (New York: St. Martin's Press, 1974); Margaret Gowing, *Independence and Deterrence: Britain and Atomic Energy, 1945–1952: Vol. 2, Policy Execution* (New York: St. Martin's Press, 1974). Professors Gowing and Freedman are the leading authorities in the areas of British nuclear weapons acquisition, doctrine, and the Anglo-American special relationship. No study in this area can be complete without reference to their seminal works. See also, Alan Macmillan, *Britain and Atomic Weapons, 1945–1949: The Development of a Deterrence Frame of Mind*, International Politics Research Papers, no. 9 (Aberystwyth: Department of International Politics, University College of Wales, 1991); Martin S. Navias, *Nuclear Weapons and British Strategic Planning, 1955–1958* (Oxford: Clarendon Press, 1991); John Simpson, *The Independent Nuclear States* (London: Macmillan, 1983).

3. Clark, and Wheeler, *The British Origins of Nuclear Strategy: 1945–1955*, p. 4.

4. *Ibid.*

5. Rosecrance, *Defense of the Realm*, p. 51.

6. *Ibid.*

7. Winston S. Churchill, *The Gathering Storm* (New York: Bantam Books, 1961), pp. 186–7. Emphasis added.

8. Rosecrance, *Defense of the Realm*, pp. 38–9.

9. *Ibid.*, p. 42.

10. Margaret Gowing, *Independence and Deterrence: Vol. 1*, pp. 1–2. The Maud Committee, composed of eminent scientists, was organized in 1940 to prepare a feasibility study on an atomic bomb.

11. *Ibid.*, p. 98.

12. *Ibid.*, p. 184.

13. *Ibid.* Emphasis added.

14. Coral Bell, *The Debatable Alliance* (London: Oxford Univ. Press, 1964), p. 71.

15. Gowing, *Independence and Deterrence: Vol. 1*, p. 183.

16. Sir John Slessor, "The Place of the Bomber in British Strategy," *International Affairs*, no. 29, July 1953. Quoted in Pierre, *Nuclear Politics*, p. 150.

17. *Parliamentary Debates*, Commons, 4 March 1954, col. 1378. Quoted in Pierre, *Nuclear Poltics*, p. 150.

18. *Ibid.*
19. *Parliamentary Debates*, Commons, 1 March 1955, col. 1897. Quoted in Pierre, *Nuclear Politics*, p. 93, n. 1.
20. *Ibid.*, p. 149.
21. Quoted in Freedman et al., *Independence in Concert*, pp. 6–7. The writer is very grateful to Dr. Lawrence Freedman for bringing this monograph to his attention.
22. Exchange of Letters between Prime Minister Margaret Thatcher and President James Carter, 10 July 1980. *The Times* (London), 16 July 1980, p. 6. Emphasis added.
23. Freedman et al., *Independence in Concert*, p. 15.
24. *Ibid.*
25. "Successor to Polaris force might cost from £4,000 to £5,000m," *The Times* (London), p. 8.
26. Peter Hennessy, "Memory of 1940 May Be Behind Devotion to the Deterrent," *The Times* (London), 27 January 1981, p.4.
27. *Ibid.*
28. Freedman, *Britain and Nuclear Weapons*, p. 139.
29. Francis Williams, *Twilight of Empire: Memoirs of Prime Minister Clement Attlee* (New York: A.S. Barnes and Co., 1962), pp. 118–9. Cf. also, Kenneth Harris, *Attlee* (New York, London: W.W. Norton & Co., 1982); Alan Bullock, *Ernest Bevin, Foreign Secretary: 1945–1951* (New York, London: W.W. Norton & Co., 1983); Peter Hennessy, "How Bevin Saved Britain's Bomb," *The Times* (London), 30 September 1982.
30. Margaret Gowing, *Prologue: Early Western Nuclear Relationships*, Nuclear History Program, Occasional Paper 4, July 1989, p. 13.
31. Quoted in George W. Ball, *The Discipline of Power* (Boston, Toronto: Little, Brown and Co., 1968), p. 96.
32. The Quebec Agreement of August 1943, The Hyde Park Aide-Memoire, signed by President Roosevelt and Prime Minister Churchill on 19 September 1944, and the Washington Declaration on Atomic Energy, signed by President Harry Truman, Prime Minister Clement R. Attlee, and Canada's Prime Minister, Mackenzie King, in November 1945. For Canada's role in the Anglo-American nuclear relationship, see Robert Bothwell, *Nucleus* (Toronto: Univ. of Toronto Press, 1988). I am grateful to Professor Margaret Gowing for bringing this reference to my attention.
33. Gowing, *Prologue: Early Western Nuclear Relationships*, p. 13.
34. *Ibid.*
35. Freedman, *Britain and Nuclear Weapons*, p. 136.
36. Freedman et al., *Independence in Concert*, p. 12.
37. *Ibid.*
38. *Ibid.*, pp. 12–3.
39. Evidence of this adversarial context of Anglo-American relations during and after the Second World War is extensive and may be found in both the primary sources and in the secondary literature. For primary sources, see Cordell Hull, *Memoirs*, 2 vols. (New York: The Macmillan Co., 1948); Elliot Roosevelt, *As He Saw It* (New York: Duell Sloan and Pearce, 1946); see especially Warren F. Kimball, ed., *Churchill and Roosevelt: The Complete Correspondence*, 3 vols. (Princeton: Princeton Univ. Press, 1984); Harold Macmillan, *The Blast of War: 1939–1945* (New York: Harper and Row, 1966); Harold Macmillan, *War Diaries: Politics and War in the Mediterranean, January 1943–May 1945* (New York: St. Martin's Press, 1984); Julian Amery, *The Life of Joseph Chamberlain: Vol. 6, Joseph Chamberlain and the Tariff Reform Campaign* (New York: St. Martin's Press, 1969); John Colville, *The Fringes of Power: 10 Downing Street Diaries, 1939–1955* (New York and London: W.W. Norton and Co., 1985). David Dilks, ed., *The Diaries of Sir Alexander Cadogan, 1938–1945* (New York: G.P. Putnam's Sons, 1972), p. 6.

For the secondary literature, some of the best representative examples are the following: William Roger Louis, *Imperialism at Bay: The United States and the Decolonization of the British Empire: 1941–1945* (New York: Oxford Univ. Press, 1978); William Roger Louis and Hedley Bull, eds. *The "Special Relationship": Anglo-American Relations Since 1945* (Oxford:

Clarendon Press, 1986). See also, Richard N. Gardner, *Sterling-Dollar Diplomacy* (New York: McGraw-Hill Book Co., 1969).

For a masterful analysis of the wartime alliance in Asia, see Christopher Thorne, *Allies of a Kind* (New York: Oxford Univ. Press, 1978); Christopher Thorne, "Chatham House, Whitehall, and Far Eastern Issues: 1941–1945," *International Affairs*, no. 54, January 1978 pp. 1–29. See also, Christopher Thorne, "IndoChina and Anglo-American Relations: 1942–1945," *Pacific Historical Review*, no. XLV, February 1976, pp. 73–96. Walter LaFeber, "Roosevelt, Churchill, and IndoChina: 1942–1945," *The American Historical Review*, no. 80, December 1975, pp. 1277–95; Warren F. Kimball, "Lend-Lease and the Open Door: The Temptation of British Opulence, 1937–1942," *Political Science Quarterly*, no. 86, June 1971, pp. 232–59; Barry Rubin, "Anglo-American Relations in Saudi Arabia: 1941–1945," *Journal of Contemporary History*, no. 14, 1979, pp. 253–67.

For some early interpretations, see the following: Keith Hutchinson, *Rival Partners: America and Britain in the Postwar World* (New York: The Macmillan Co., 1946); Herbert Feis, "The Future of Imperial Preferences," *Foreign Affairs*, no. 24, July 1946, pp. 661–74; John Gallagher and Ronald Robinson, "The Imperialism of Free Trade," *The Economic History Review*, Second Series, no. 6, 1953.

40. Quoted in David Reynolds, "Rethinking Anglo-American Relations," *International Affairs*, no. 65, Winter 1988–89, p. 94.

41. Quoted in Keith Kyle, *Suez* (New York: St. Martin's Press, 1991), p. 411.

42. *Ibid.*

43. "Report of Flag Officer, Aircraft Carriers." Quoted in *ibid.*, p. 412.

44. *Ibid.*

45. Admiral Arleigh Burke, "Testimony," John Foster Dulles Oral History Project, Princeton University. Quoted in *ibid.* This information was previously revealed, in part, in Leonard Mosley, *Dulles* (New York: The Dial Press/James Wade, 1978), p. 418.

46. Kyle, *Suez*, p. 413.

47. Quoted in *ibid.*, p. 412.

48. Quoted in Terence Robertson, *Crisis: The Inside Story of the Suez Conspiracy* (New York: Atheneum) pp. 251–52.

49. *Ibid.*, p. 253.

50. *Ibid.*, p. 254.

51. *Ibid.*

52. *Ibid.* A flat denial of this position is to be found in the recent *oeuvre* on Suez by Keith Kyle, Research Fellow with the Middle East Program of the Royal Institute of International Affairs (Chatham House). See Kyle, *Suez*, pp. 458–9.

53. David Nunnerley, *President Kennedy and Britain* (New York: St. Martin's Press, 1972). p. 6.

54. For a brilliant, albeit premature portrayal of Britain's demise as a great power actor in world affairs, see Chester Cooper, *The Lion's Last Roar: Suez 1956* (New York: Harper and Row, Publishers, 1978). Cf. also, Nunnerley, *President Kennedy and Britain*, p.6.

55. For an authoritative account of the Falklands war by the British Prime Minister, see Margaret Thatcher, *The Downing Street Years* (New York: Harper Collins, 1993), pp. 173–238.

For a critical view of the opposition voiced by some within the Reagan administration to Britain's Falklands policy, especially that of Mrs. Jeane Kirkpatrick, United States Ambassador to the United Nations, see ibid., p. 180. For Ambassador Kirkpatrick's defense of her position, see Jeane Kirkpatrick, "The Falklands—A War the Americans Lost," *The Sunday Times* (London), 17 December 1989, p. B7.

56. See the "Belgrano Papers," in *New Statesman*, 24 August 1984, pp. 8–10. For an early politico-military appreciation of the Falklands War, see Lawrence Freedman, "The War of the Falkland Islands, 1982," *Foreign Affairs*, no. 61, Fall 1982, pp. 196–210.

57. AP Dispatch, *Cincinnati Enquirer*, 28 May 1982, p. A–16.

58. Quoted in Peter Hennessy, *Whitehall* (New York: The Free Press, 1989), p. 401. Emphasis added.

59. A.J.R. Groom, *British Thinking About Nuclear Weapons* (1974). Quoted in Navias, *Nuclear Weapons and British Strategic Planning, 1955–1958*, p. 141.

60. Navias *Nuclear Weapons and British Strategic Planning, 1955–1958*, p. 141. See also, Martin S. Navias, "The Sandys White Paper and the British New Look," Unpublished Manuscript, Nuclear History Program, n.d.

61. Wyn Rees, "The 1957 Sandys White Paper: New Priorities in British Defence Policy?" *The Journal of Strategic Studies*, no. 12, June 1989, p. 226.

62. *Parliamentary Debates*, Commons, vol. 568, 16 April 1957, cols. 1760–1, quoted in Pierre, *Nuclear Politics*, p. 101, n.1.

63. Navias, *Nuclear Weapons and British Strategic Planning, 1955–1958*, p. 140.

64. Richard E. Neustadt, *Alliance Politics* (New York and London: Columbia Univ. Press, 1970), p. 30. See also, the as yet only partially declassified study commissioned by President John F. Kennedy as a postmortem on Skybolt, by Richard E. Neustadt, Report to the President, "Skybolt and Nassau: American Policy-making and Anglo-American Relations," 15 November 1963. Only some of the data from the report were subsequently reprinted by Neustadt in *Alliance Politics*.

65. Nunnerley, *President Kennedy and Britain*, p. 128.

66. For the background to the Nassau Conference and the Skybolt missile crisis that preceded i , see the following sources for a more comprehensive appreciation: Dr. Peter Nailor's account of the British Polaris Projec , based on a still classified study, contains careful treatment of the Nassau Conference and its background. See Nailor, *The Nassau Connection: The Organization and Management of the British Polaris Project* (London: Her Majesty's Stationery Office (HMSO), 1988). Nailor's book was previewed in a column by David Walker, "Whitehall Brief: Insider Tells Epic Polaris Success Story," *The Times* (London), 21 November 1988, p. 6. See also, George W. Ball, *The Discipline of Power*, pp. 100–8. Henry Brandon wrote a particularly informative article in *The Sunday Times* (London), 8 December 1963, pp. 29–31; Harold Macmillan, *At the End of the Day, 1961–1963* (New York: Harper & Row Publishers, 1973), pp. 342–62; Neustadt, Report to the Presiden , "Skybolt and Nassau: American Policy-Making and Anglo-American Relations"; Neustadt, *Alliance Politics*; W.W. Rostow, *The diffusion of Power*, pp. 243–46. See also, Nunnerley, *President Kennedy and Britain*, pp. 127–49 on Skybolt and pp. 151–61 on the Nassau Conference.

67. Nunnerley, *President Kennedy and Britain*, p. 128.

68. Macmillan, *At the End of the Day, 1961–1963*, p. 342.

69. *Ibid.* See also, Harold Macmillan, *Pointing the Way, 1959–1961* (New York: Harper & Row, 1973), pp. 251–5.

70. Solly Zuckerman, *Monkeys, Men, and Missiles* (New York, London: W.W. Norton & Co., 1988), p. 240. See Zuckerman's careful explanation of the technical problems relating to a successful deployment of Skybolt, in *ibid.*, p. 244.

71. *Ibid.*, p. 241.

72. *Ibid.*, p. 244.

73. Alistair Horne, Interview with Robert S. McNamara. Quoted in Alistair Horne, *Harold Macmillan: Vol II, 1957–1986* (New York: Viking Penguin, 1989), p. 435.

74. *Ibid.*, p. 439.

75. Nunnerley, *President Kennedy and Britain*, p. 133. Cf. also, the account in Neustadt, *Alliance Politics*, p. 38.

76. Macmillan, *At the End of the Day*, p. 334.

77. David Owen, *The Politics of Defence* (New York: Taplinger Publishing Co., 1972), p. 174.

78. *Ibid.*

79. Macmillan, *At the End of the Day*, p. 334.

80. *Ibid.*, p. 347.

81. Diary entry for 19 June 1962. Quoted in *Ibid.*, p. 335.

82. Ball, *The Discipline of Power*, p. 101.

83. Owen, *The Politics of Defence*, p. 175.

84. Quoted in Ball, *The Discipline of Power*, p. 69.

85. Macmillan, *At the End of the Day*, p. 339.

86. *Ibid.*
87. Nailor, *The Nassau Connection*, p. 7.
88. Macmillan, *At the End of the Day*, p. 343.
89. Diary entry for 11 December 1962. Quoted in *ibid.*
90. *Ibid.*, p. 344.
91. *Ibid.*, p. 347.
92. Horne, *Harold Macmillan: Vol. II*, p. 437.
93. Interview with George W. Ball. quoted in *ibid.*
94. Macmillan, *At the End of the Day*, p. 356.
95. *Ibid.*, p. 357.
96. *Ibid.*, p. 358.
97. *Ibid.*
98. *Ibid.*
99. Nunnerley, *President Kennedy and Britain*, p. 158.
100. *Ibid.*
101. Appendix Four. Nassau Communique, 21 December 1962. "Statement on Nuclear Defence Systems." Quoted in Macmillan, *At the End of the Day*, p. 555.
102. Diary entry for 23 December 1962. Quoted in Macmillan, *At the End of the Day*, pp. 361–2.
103. Horne, *Harold Macmillan: Vol. II*, p. 443.
104. *Ibid.*, p. 442.
105. Diary entry for 28 January 1963. Quoted in Macmillan, *At the End of the Day*, p. 363.
106. *Ibid.*
107. Freedman et al., *Independence in Concert*, pp. 14–5.
108. Horne, *Macmillan, Vol. II*, p. 439. Unfortunately, President Kennedy's subordinates were not as quick as their President to grasp the strategic lessons of the Skybolt affair. Thus, in his *The Discipline of Power*, written six years after the event, George Ball could argue that what Britain had achieved at Nassau came at a time of British *weakness*. Ball argued that "by pressing Polaris submarines on the British, we made possible the unedifying spectacle of a Britain that clings to a nuclear deterrent which she cannot afford, which by itself, has no realistic military value, and which has got in the way of her entry into Europe." Ball, *The Discipline of Power*, p. 107. Here, Ball completely missed the point: The United States did *not* "press" the Polaris on Great Britain. The historical record clearly demonstrated the opposite to have been the case: The United States opposed supplying both Skybolt missiles and Polaris to Britain until the Nassau tour de force by Macmillan, who, in any event, was willing to pay any price to keep Great Britain a nuclear power, and so, contrary to Ball's arguments, Polaris was secured by virtue of Britain's power and the statecraft of her Prime Minister. It was secured also by the recognition and acceptance of those facts by President Kennedy. The lack of a similar strategic appreciation by Kennedy's subordinates did much to reconfirm Britain's worse case scenario about United States' reliability.
109. Macmillan, *At the End of the Day*, p. 361.
110. Freedman, *Britain and Nuclear Weapons*, p. 46. Emphasis added.
111. *Ibid.*, p. 42.
112. This contention is supported by Professor Eric J. Grove, who noted that "in 1972, when [British Prime Minister] Heath was in Washington, the Americans let him know that they would prefer *not* to be asked to sell Britain Poseidon due to Strategic Arms Limitation Talks (SALT) considerations." See Eric J. Grove, *Vanguard to Trident: British Naval Policy Since World War II* (Annapolis, Md.: Naval Institute Press, 1987), p. 347. Professor Lawrence Freedman disputes this contention, arguing that Prime Minister Heath was indeed "reassured on the renewal of the [Poseidon] agreements," only to have Britain itself reject Poseidon by mid-1973. See Freedman, *Britain and Nuclear Weapons*, p. 45.
113. David Fishlock, "Revealed: Chevaline's Ꝏbn Secrets," *Financial Times* (London), 14 July 1981, p. 17.
114. Freedman, *Britain and Nuclear Weapons*, p. 40. Emphasis added.

115. David A. Brown, "British, U.S. Defense Secretaries Reach SDI Accord," *Aviation Week and Space Technology*, 4 November 1985, p. 26.
116. *Ibid.*, p. 27. See also, *Aviation Week and Space Technology*, 30 June 1986, p. 24.
117. Michael Evans, "Britain's Star Wars 'Possible' with Existing Weapons," *The Times* (London), 3 January 1989, p. 1.
118. For a sobering view of Britain's growing deterrent capability in the coming years, see George M. Seignious II and Jonathan Paul Yates, "Europe's Nuclear Superpowers," *Foreign Policy*, no. 55, Summer 1984, pp. 40–53. See also, Yates, author's reply in "Letters" column, *Foreign Policy*, no. 59, Summer 1985, pp. 179–80.
119. Michael Evans, "All Systems Go for £9bn Trident Programme," *The Times* (London), 14 February, 1989, p. 5.
120. Peter Hennessy, "Cabinet's Atomic Bomb Minute Restored to File," *The Times* (London), 21 July 1980, p. 3.
121. Exchange of Letters between Prime Minister Thatcher and President Carter, 10 July 1980. Quoted in *The Times* (London), 16 July 1980, p. 6.
122. Interview with President Kennedy: 11 January 1963. Quoted in David Owen, *The Politics of Defence*, p. 179.
123. Freedman et al., *Independence in Concert*, p. 9.
124. Hennessy, "Memory of 1940 May Be Behind Devotion to the Deterrent," p.4.
125. U.K., House of Commons, *Second Report from the Expenditure Committee*, Session 1975-6 (SCOE 73/1). Quoted in Freedman, *Britain and Nuclear Weapons*, p. 136. Cf. also, *ibid.*, pp. 128–9.
126. *Ibid.*, p. 136.
127. *Ibid.*, p. 135.
128. *Ibid.*, p. 136.
129. Alex Gliksman, "Three Keys for Europe's Bombs," *Foreign Policy*, no. 39, Summer 1980, p. 43.
130. Paul Lewis, "Kissinger Criticizes U.S. Pledge to NATO," *The New York Times*, 2 September 1979, p. 8.
131. U.K., House of Commons, *Sixth Report from the Expenditure Committee*, Session 1978–9, pp. 119, 129. Quoted in Freedman, *Britain and Nuclear Weapons*, p. 137.
132. Freedman et al., *Independence in Concert*, p. 17.
133. Quoted in *ibid.*
134. Thucydides, *The Peloponnesian War*. The Crawley trans. rev. by T.E. Wick (New York: The Modern Library, 1982), V: 89, p. 351.
135. Gowing, *Independence and Deterrence: Vol. 1, Policy-Making*, pp. 184–5.
136. Thucydides, *The Peloponnesian War*, V:105, p. 353.
137. Freedman, *Britain and Nuclear Weapons*, p. 54.
138. Nailor and Alford, *The Future of Britain's Deterrent Force*, p. 4.
139. Ian Smart, "British Foreign Policy to 1985: I, Beyond Polaris," *International Affairs*, no. 53, October 1977, p. 562. See also the complete study upon which this article was based: Ian Smart, "British Foreign Policy to 1985: I, The future of the British Nuclear Deterrent: Technical, Economic and Strategic Issues," London: Chatham House, The Royal Institute of International Affairs (RIIA), 1977.
140. Lord Chalfont, "Is Trident the Right Answer?" *The Times* (London), 4 August 1980, p. 140. Emphasis added.
141. Freedman et al., *Independence in Concert*, p. 15.
142. Quoted in *ibid.*, pp. 15–6.
143. Margaret Thatcher, "Europe: The Obligations of Liberty," *Vital Speeches of the Day*, vol. 16, 1 December 1979, p. 101.
144. In his memoirs, Prime Minister Harold Wilson alluded rather suggestively to the British dependence on the United States for tritium supplies, although not by name. See Harold Wilson, *A Personal Record: The Labour Government, 1964–1970* (Boston, Toronto: Little, Brown and Co., 1971), p. 55.
145. Freedman, *Britain and Nuclear Weapons*, p. 56.

146. David Fishlock, "Tritium's Place in Britain's Nuclear Arsenal," *Financial Times* (London), 15 January 1980, p. 17.
147. Freedman, *Britain and Nuclear Weapons*, p. 56.
148. See in particular, the article by Angus MacPherson, in the *Daily Mail* (London), 16 May 1977, p. 1.
149. Fishlock, "Tritium's Place in Britain's Nuclear Arsenal," p. 17.
150. *Ibid.*
151. Freedman, *Britain and Nuclear Weapons*, p. 56.
152. *Ibid.*
153. Sir Michael Howard, review article, "Cold War Remedies: American Power and the New Anarchy," *The Times Literary Supplement* (London), 3 September 1993, p. 6.
154. "Rethinking Defence," *The Times* (London), 19 October 1993, p. 15.
155. David White, "RAF Faces End to V-Bomber Saga," *Financial Times* (London), 19 October 1993, p. 8.
156. Michael Evans, "Trident Threat Ousts New Nuclear Missile," *The Times* (London), 19 October 1993, p. 5. For an early indicator that a doctrinal adjustment was forthcoming, see *The Observer* (London), 4 July 1993, p. 1; see also David White, "UK Confirms Plan to Limit Trident Power," *Financial Times* (London), 17 November 1993, p. 9.
157. White, "UK Confirms Plan to Limit Trident Power," p. 9.
158. *Ibid.*
159. Evans, "Trident Threat Ousts New Nuclear Missile," p. 5.
160. Rosecrance, *Defense of the Realm*, p. 37.
161. Quoted in Sissela Bok, *Secrets: On the Ethics of Concealment and Revelation* (New York: Vintage Books, 1984), p. 172.
162. Quoted in Hennessy, *Whitehall*, p. 348.
163. C.P. Snow, *The New Men* (New York: Charles Scribner's Sons, 1955).
164. *Ibid.*, p. 15.
165. *Ibid.*, p. 17.
166. Gowing, *Independence and Deterrence: Vol 1, Policy-Making*, p. 181. William G. Penney, in 1946, served as Chief Superintendent of Armament Research in the Ministry of Supply. A brilliant mathematician, Penney had worked closely with his American counterparts on the development of the bomb during the war and had, on that account, "become one of the chief Anglo-American experts on the weapon side" of nuclear technology. See also *ibid.*, p. 180.
167. Hennessy, "Cabinet's Atomic Bomb Minute Restored to File," p. 3.
168. Gowing, *Independence and Deterrence: Vol. 1, Policy-Making*, p. 182, n.
169. *Ibid.*, p. 183.
170. *Ibid.*
171. G.R. Strauss, M.P. "Letters: Attlee and the Bomb," *Encounter*, no. 21, June 1963, p. 91.
172. *Ibid.*
173. Hennessy, "Cabinet's Atomic Bomb Minute Restored to File," p. 3.
174. *Ibid.* Cf. also "Request for H-Bomb Debate Refused," *The Times* (London), 18 May 1977.
175. See David Fairhall, *The Guardian* (London), 25 January 1980, pp. 1 *et seq.*
176. Peter Hennessy, "Whitehall Brief: £1,000m Deterrent Fails to Get Off Ground," *The Times* (London), 30 June 1981. Hennessy's reference to the burying away of Chevaline Project expenditures "each year in the 'other research and development' item" of the budget should be treated with some caution. The financial investment in Britain's strategic deterrent has always been a closely guarded secret. This item has proved to be a "hidden" commodity in British budgetary data over the years, as Churchill's testimony regarding the actions of the Attlee government confirms.

Therefore, when such information is released to the public domain, past practice should prove some guide to its reliability. For example, when I performed multiple regression analysis with correlated disturbances on British defense expenditures between 1947–1982, I found no statistical evidence to account for the growth of the strategic deterrent, if measured by

the "Other Research and Development" line item, beginning with the years 1966–67. This particular line item, therefore, ought to be considered more of a null variable rather than a valid indicator by which to assess the growth of Britain's strategic deterrent over time. In any event, my findings merely confirm statistically that "Dissimulation as Statecraft" continues to operate as the modality of choice for Britain. For a statistical analysis of these data, see Table 2, above.

177. Peter Hennessy, "MP's to Study Chevaline Programme," *The Times* (London), 8 July 1981, p. 3.
178. *Ibid.*
179. *The Times* (London), 16 July 1980, p. 12.
180. *Ibid.*
181. *Ibid.*
182. For three excellent introductions to this subject, see C.P. Snow's *Science and Government* (New York: Mentor Books, the New American Library, 1962), and his fictional, *Corridors of Power* (New York: Charles Scribner's Sons, 1964). And for a more recent inquiry, see Sissela Bok, *Secrets: On the Ethics of Concealment and Revelation.*
183. Thucydides, *The Peloponnesian War*, I:23, p. 14.
184. Paul H. Nitze, "Atoms, Strategy and Policy," *Foreign Affairs*, no. 34, January 1956, p. 187.
185. Pierre, *Nuclear Politics* p. 151.
186. See Nailor and Alford, *The Future of Britain's Deterrent Force.* I have borrowed heavily from Nailor's important contribution, "The Strategic Context."
187. *Ibid.*, p. 3.
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190. Gliksman, "Three Keys for Europe's Bombs," p. 42.
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192. John Foster Dulles, *The Vital Letters of Russell, Khrushchev, Dulles.* Introduction by Kingsley Martin, editor of the *New Statesman* (London: Macgibbon & Kee, 1958), p. 32.
193. See in particular, Margaret Gowing, *Independence and Deterrence—Britain and Atomic Engergy, 1945–1952: Vol. 2, Policy Execution.* See also, the data analysis presented in the Appendix, *supra.*
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196. Smart, "British Foreign Policy to 1985: I, Beyond Polaris," p. 568.
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199. *Ibid.*
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201. Hugh, Noyes, "Gasps from Labour at £1,000m Polaris plan," *The Times* (London), 25 January 1980, p. 1. Cf. also, Mervosh and Fishlock, "British Scientific Technology for the Eighties," p. 31.
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205. David Fishlock, "Britain's Anti-Missile Warhead in Service Next Year," *Financial Times* (London), 13 July 1981.
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207. *Ibid.*
208. For the "job creation" apologia, see *ibid.*
209. See *The Daily Telegraph* (London), 19 October 1993, Table, p. 12.
210. *The Times* (London), 16 July 1980, p. 12.

211. *Ibid.*
212. *Ibid.*
213. *Ibid.*
214. Nailor and Alford, *The Future of Britain's Deterrent Force*, p. 4.
215. David Owen, review of *An Ocean Apart*, by David Dimbleby and David Reynolds, in *The Sunday Times* (London), 3 April 1988, p. 64.
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217. Hennessy, "How Bevin Saved Britain's Bomb," *The Times* (London), 30 September 1982. p. 10.
218. Grove, *Vanguard to Trident: British Naval Policy Since World War Two*, p. 83.
219. See Peter Hennessy and David Walker, "Atomic Power Policy Remains Secret," *The Times* (London), 6 January 1983, p. 1. Even if not fully declassified, to date, there has been some movement recently by the British government to allow selected British scholars to examine the Global Strategy Paper of 1952. See Alan Macmillan and John Baylis, *A Reassessment of the British Global Strategy Paper of 1952*, Nuclear History Program (Occasional Paper 8, 1994).
220. Grove, *Vanguard to Trident*, p. 82.
221. *Ibid.*, p. 84.
222. *Ibid.* The text of the Global Strategy Paper was quite explicit on the role of Britain's nuclear deterrent as a political instrument vis-à-vis the United States: "We feel that to have no share in what is recognised as the main deterrent in the Cold War, and the only allied offensive in world war, would seriously weaken British influence on American policy and planning in the Cold War, and in war would mean that the United Kingdom would have no claim to share in the policy or planning of the offensive." United Kingdom, Cabinet Papers: Defence Committee, D(52)26, "Defence Policy and Global Strategy," Report by the Chiefs of Staff, 17 June 1952, Para 92. Quoted in Macmillan and Baylis, *A Reassessment of the British Global Strategy Paper of 1952*, p. 49. Macmillian and Baylis indicate that the Global Strategy Paper "should be in the Public Record Office . . . in CAB 131/12." *Ibid.*, p. 14.
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225. Harold Macmillan, *Pointing the Way, 1959–1961* (New York: Harper & Row, Publishers, 1972), p. 392. I am grateful to Dr. Ellis Rivkin for bringing this reference to my attention.
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228. Pierre, *Nuclear Politics*, p. 153.
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231. Pierre, *Nuclear Politics*, pp. 90–1.
232. *Ibid.*, p. 156.
233. *Ibid.*, p. 96.
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236. Pierre, *Nuclear Politics*, p. 156.
237. *Ibid.*
238. Freedman, *Britain and Nuclear Weapons*, p. 26.
239. Pierre, *Nuclear Politics*, p. 157.
240. *Ibid.*
241. *Ibid.*, p. 157, n. 1.
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243. *Ibid.*, p. 36.
244. Nailor, *The Nassau Connection*, p. 30.

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246. Grove, *Vanguard to Trident: British Naval Policy Since World War Two*, p. 241.
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249. *Ibid.*, p. 241. For additional discussion of the Sales Agreement as applied to Re-Entry Systems, see Nailor, *The Nassau Connection*, pp. 95–6.
250. Nailor, *The Nassau Connection*, pp. 95–6.
251. Grove, *Vanguard to Trident: British Naval Policy Since World War Two*, p. 243. For the location of the test-site for Britain's first Polaris missile test firing, see Freedman, *Britain and Nuclear Weapons*, Appendix 6, p. 147.
252. Freedman, *Britain and Nuclear Weapons*, Appendix 1, p. 142.
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257. For a provocative critique of the basis for the MIRV decision by the U.S., and its technological/strategic implications, see Col. Jonathan Alford, "The Technological Trap," *International Relations: The Journal of the David Davies Memorial Institute of International Studies* 7, no. 2, November 1981, pp. 1091–102.
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259. See Fishlock, "Revealed: Chevaline's £1bn Secrets," p. 17.
260. *Ibid.*
261. *Ibid.*
262. *Ibid.*
263. *Ibid.*
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265. *Ibid.*
266. *Ibid.*, p. 20.
267. *Ibid.*, p. 2.
268. Grove, *Vanguard to Trident: British Naval Policy Since World War Two*, p. 348. Cf., also, Freedman, *Britain and Nuclear Weapons*, p. 49. For the earliest disclosure of "Chevaline" by name, in the House of Commons, see the following: David Fairhall, *The Guardian* (London), 25 January 1980, pp. 1 *et seq.*; Noyes, "Gasps from Labour at £1,000m Polaris Plan," p. 1.
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275. "Letter to the Editor," from Lord Ian Orr-Ewing, Civil Lord of the Admiralty, when the Polaris Agreement was reached in 1962. *The Times* (London), 6 February 1992, p. 13. Grove has priced Chevaline at "in excess" of £530 million, at 1972 prices. See Grove, *Vanguard to Trident*, p. 348.
276. See Thatcher, *The Downing Street Years*, pp. 244–5.
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280. Grove, *Vanguard to Trident*, p. 356.
281. Thatcher, *The Downing Street Years*, p. 247.
282. See *The Times* (London), 12 March 1982, p.1.
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284. Grove, *Vanguard to Trident*, p. 356.
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287. For a representative sampling of this debate, see Lawrence Freedman, "Set to Sail Without a Helmsman," *The Independent* (London), 5 March 1992, p. 25.
288. "Letter to the Editor" from Lord Ian Orr-Ewing, *The Times* (London), 6 February 1992, p. 13.
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292. "P.M. on Need for Hydrogen Bomb: 'Makes U.S. Pay More Regard' to Britain," Home News Column, *The Times* (London), 24 February 1958, p. 3. I am most grateful to Dr. Ellis Rivkin for this reference.
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294. See James Bellini and Geoffrey Pattie, *A New World Role for the Medium Power: The British Opportunity* (London: Royal United Services Institute, 1977).
295. Samuel P. Huntington, "The U.S.—Decline or Renewal," *Foreign Affairs*, no. 67, Winter 1988–89, p. 90.
296. Radio Free Europe/Radio Liberty, *Daily Report*, no. 25, 7 February 1994.
297. "The New Disorder." Speech by the Foreign Secretary, Mr. Douglas Hurd, to the Royal Institute of International Affairs, Chatham House, London, 27 January 1993. *Verbatim Service*, VS03/93 (United Kingdom: Foreign and Commonwealth Office, 27 January 1993), pp. 1 and 7. Cf. Edward Mortimer, "Hurd Hits at U.S. over UN Council," *Financial Times* (London), 28 January 1993, p. 4.

See also, the seminal address delivered by Prime Minister Thatcher at the Aspen Institute, in Aspen, Colorado, 5 August 1990, just as Saddam Hussein was launching his invasion of Kuwait. See "Shaping a New Global Community." Speech by Prime Minister Thatcher to the Aspen Institute, Colorado, 5 August 1990. *Verbatim Service*, VS039/90 (United Kingdom: Foreign and Commonwealth Office, 5 August 1990), pp. 1-9. Thatcher's address set the parameters and the context for Foreign Secretary Hurd's own remarks, two years later.

298. Jacques Attali, *Millennium* (New York: Random House, Inc., 1991), p. 7.
299. The main proponent of the "declinist" thesis to explain hegemonic decline has been Paul Kennedy. See Paul Kennedy, *The Rise and Fall of the Great Powers* (New York: Vintage Books, 1987). See also, the highly critical comments on American decline by Edward N. Luttwak, *The Endangered American Dream* (New York: Simon and Schuster, 1994). Luttwak previewed his study in the pages of *Commentary*. See Edward N. Luttwak, "Is America on the Way Down? A Debate," *Commentary*, no. 3, March 1992, pp. 15–21. See also, Luttwak's reply to his critics in *Commentary*, no. 2, August 1992, pp. 20–1.

The "declinist" school has its detractors. The most influential critic of Kennedy has been Joseph Nye of Harvard University's Center for International Affairs. See Joseph S. Nye, Jr., *Bound to Lead: The Changing Nature of American Power* (Cambridge: Harvard Univ. Press, 1992). For Luttwak's critics, see Robert L. Bartley, "Is America on the Way Down? A Debate," *Commentary*, no. 3, March 1992, pp. 22–7. Bartley has argued that the declinist thesis is a "delusion [that] will not sell," because it is a polemic rather than a scientific economic analysis. See especially, W.W. Rostow, review article, "Why America is Not Ready for the Ash-Heap," *The Times Literary Supplement* (London), 4 February 1994, p. 6.

300. Churchill, *Parliamentary Debates*, Commons, vol. 537, 1 March 1955, col. 1905. Quoted in Pierre, *Nuclear Politics*, p. 93, n. 3.
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Index
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