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## **The British Nuclear Experience: The Role of Ideas and Beliefs (Part One)**

JOHN BAYLIS and KRISTAN STODDART

*Strategic culture, beliefs, and perceived status in an anarchic international system played a crucial role in the development of British nuclear weapons policy from its inception in the Second World War through to the Nassau Agreement in 1962 that provided Britain with a sophisticated submarine nuclear deterrent—Part Two, in the next issue of *Diplomacy and Statecraft*, will look at the period from 1962 to the present day. Adopting what has been described as a “Conventional Constructivist” approach, the argument is that these ideational factors have helped to shape the character of Britain’s nuclear capability and the operational plans for the potential employment of those capabilities. It also provides an insight into how these factors have shaped elite views of the UK nuclear deterrent in the crucial early years of its development.*

One of the key questions in contemporary Strategic Studies and Non-Proliferation Studies focuses on the saliency of nuclear weapons in national security policies. Why is it that some states put particular emphasis on developing nuclear weapons and devising strategies for their use? Realist explanations tend to stress the importance of factors such as “the maximization of power,” the pursuit of “national security interests,” and—in its Neo-Realist variant—the role of “structure” in a largely anarchic international system. In contrast, this analysis argues that “ideas” and “beliefs,” deriving from deep cultural roots, have an important, indeed even more important, role to play in nuclear decision-making.<sup>1</sup> The British nuclear experience suggests that ideational, more than materialist, factors have been at the heart of British nuclear policy and that, in particular, the ideas and beliefs of a relatively small political, military, and scientific elite have been of critical importance in the continuing British view in the important utility of nuclear weapons. As Martin Ceadel has argued, the members of the British political and military establishment have tended to share a consistent belief “that war could never be abolished, since states were always in conflict. The best to be hoped for was a diplomatic compromise amongst states which reflected

the prevailing distribution of power.”<sup>2</sup> This belief that war was a perennial feature of the international system suggested to Labour and Conservative governments and their key officials that military force—and in particular a nuclear capability—was likely to have a continuing, indeed vital, utility in the years ahead and that, despite attempts to develop a rules-based international system, traditional tools of “hard power” would continue to dominate.<sup>3</sup> What this suggests is that the Realist view of the world is a socially constructed “belief” rather than an objective reality.

It is this “realist frame of mind” that predominated amongst British leaders in the latter half of the twentieth century that has been an important part of the state’s strategic culture. Armed force had been an important ingredient in Britain’s survival as well as its perceived role as an historical Great Power. Studies of British strategic culture focus on the continuing importance to the national elite of Britain’s status and identity as a “Great Power” and its perceived key role in helping to achieve peace and security in the international system.<sup>4</sup> Traditionally this involved a belief in the importance of achieving security through the “balance of power” and seeking allies where necessary to maintain the balance. The “balance of power” was seen as an essential mechanism to achieve international stability so that Britain could continue to sustain its economic position through trade.<sup>5</sup> At the same time, it has been argued that at the heart of Britain’s traditional strategic culture was a perception of vulnerability as a densely packed island nation susceptible to invasion and air attack that had been brought home by the Battle of Britain in 1940 and then the Blitz—with the “Dunkirk Spirit” playing a prominent role on the British psyche.<sup>6</sup> To ward off such vulnerability, national security required investment in the major, most powerful, defence systems of the day. Technological superiority had traditionally played a key role in the Industrial Revolution and the development of the British Empire, especially in terms of sea power. In turn, this helped to condition thinking about the need for atomic weapons from the Second World War onwards.

Britain was the first Power that decided it was necessary to develop an atomic weapons capability. Following on from the work of Rudolf Peierls and Otto Frisch at Birmingham University in 1940, the British wartime government set up the Maud Committee consisting of six eminent scientists to study the possibility of developing a nuclear weapon.<sup>7</sup> In July 1940 the Committee completed its report with three main recommendations. It argued, first, that it was possible to construct a uranium super bomb that was “likely to lead to decisive results in the war.”<sup>8</sup> Second, it recommended that the work on such a bomb should be continued as the “highest priority and on the increasing scale necessary to obtain the weapon in the shortest possible time.” And, finally, that “the present collaboration with America should be continued and extended especially in the region of experimental work.” The highest priority that needed to be given to the project, the report argued, was due to the fact that Germany was also working on uranium

research and “the lines on which we are now working are such as would be likely to suggest themselves to any capable physicist.”<sup>9</sup>

The Committee accepted that it was possible that the bomb might not be produced by the time the war ended but the members believed that the prodigious explosive power of such weapons was likely to be of such military significance in the future that every effort should be made to develop them as soon as possible. The Report argued that:

Even if the war should end before the bombs are ready, the effort would not be wasted, except in the unlikely event of complete disarmament, since no nation would care to risk being caught without a weapon of such decisive possibilities.<sup>10</sup>

A copy of the Report was taken to the United States in Summer 1941 with the Americans still neutral and groups of scientists, in a rather unfocused manner, working on the possibilities of the bomb. It was only after receiving the Maud Report that the United States took the project more seriously, and even before Pearl Harbor, the Manhattan Project was set up.<sup>11</sup> By this time Britain had launched an organisation with the code name “Tube Alloys” with the aim of establishing the research and industrial programme necessary to develop atomic weapons.<sup>12</sup>

By the end of 1941 Britain was still ahead of the United States and, when the Americans suggested a joint programme, this was treated with what has described as, “cool condescension.” “Britain wanted exchanges of information, no more.” By Summer 1942, however, the United States had forged ahead very quickly with the huge Manhattan Project and Britain was struggling to build a few pilot units for a uranium separation plant. It was now Britain’s turn to seek a partnership with the United States. In a reversal of roles, the American rejected British offers of a joint programme and the exchange of information effectively ceased for a time. Believing that atomic power would be the “key to national power in the post-war world,” Winston Churchill, the British prime minister, made repeated attempts to persuade the American president, Franklin Roosevelt, to involve Britain in the United States programme.<sup>13</sup> In August 1943, these efforts finally paid off and the Quebec Agreement between the two countries allowed British scientists to play an important, but subsidiary role in the Manhattan Project; this collaboration led to the first atomic test in Alamogordo, New Mexico in July 1945 and the two bombs dropped on Hiroshima and Nagasaki in August 1945. The Quebec agreement, and a further agreement at Hyde Park in September 1944, also committed both governments to continuing nuclear co-operation after the war ended.

At the end of the war there was almost no doubt in the minds of many British politicians, scientists, and military leaders that Britain must have its own nuclear programme. In July 1945 a high-level scientific committee,

chaired by Sir Henry Tizard, produced a report that argued that “the only answer . . . to the atomic bomb is to be prepared to use it ourselves in retaliation. A knowledge that we were prepared, in the last resort, to do this might well deter an aggressive nation.”<sup>14</sup> As a result, the committee argued, Britain should undertake large-scale research into atomic energy, the design and manufacture of fast high-flying jet-powered bombers, and be prepared to use atomic bombs against a potential aggressor.

These ideas expressed by some of the leading scientists of the day provided the framework for the nuclear deterrent philosophy that was subsequently developed by Britain’s military chiefs. In August 1945 the Admiralty followed the Tizard Report by arguing that:

The net effect of the Atomic Bomb is that the price worth paying for peace is very much higher, and the main function of our armed forces should be the prevention of a major war, rather than the ability to fight it on purely military grounds after the war has already been decided by the collapse of civilian morale, or the destruction of ports and industrial installations.<sup>15</sup>

Similar ideas were expressed by the Chiefs of Staff (COS) in October 1945 when they concluded that “the possession of atomic weapons of our own would be vital to our security.” “The best method of defence against the new weapons,” they argued, “is likely to be the deterrent effect that the possession of the means of retaliation would have on a potential aggressor.”<sup>16</sup> Like scientists on Tizard’s committee, they urged the government to press ahead in the field of research and development in order to start the production of atomic weapons “as soon as possible.” In response to the COS report, the government decided the same month to set up a research and experimental establishment at Harwell to undertake research on all aspects of atomic energy.

The military Chiefs were particularly worried by the experience of the Blitz and the impact of the new technology given Britain’s geographical location.<sup>17</sup> These anxieties were clearly expressed in an RAF assessment of the impact of atomic weapons on Britain’s future security produced in December 1945.<sup>18</sup> As a small island, it was argued that Britain’s cities would be highly vulnerable to attack by a relatively small number of nuclear weapons. Believing that Russia was the only likely opponent, even at this early stage in the post-war period, the RAF Future Planning Staff suggested that British security could best be achieved in the years ahead by “threatening Russian cities.” A similar emphasis on Britain’s acute vulnerability emerged in a Report by the Chiefs of Staff Joint Technical Warfare Committee in July 1946. They argued that “some 30 to 120 atomic bombs accurately delivered by the USSR might cause the collapse of the United Kingdom without invasion.”<sup>19</sup>

Such beliefs, however, were not universally shared. Professor P.M.S. Blackett, a member of Prime Minister Clement Attlee's Advisory Committee on Atomic Energy, conducted a study of the effects of atomic weapons and Britain's vulnerability. His belief was that Britain's long-term security would be undermined rather than increased by the development of nuclear weapons. As the threat to use such weapons would be counterproductive, he argued that it would be better to concentrate on the peaceful uses of atomic energy.<sup>20</sup> Blackett's views, however, were not accepted by other leading nuclear scientists or by the COS. Attlee agreed with other members of what can be described as a "nuclear advocates" group—made up of senior scientists and military officials—who believed in the need for a nuclear deterrent strategy. In a rather dismissive response, he argued that "the author, a distinguished scientist, speaks on political and military problems which he is a layman."<sup>21</sup>

That the prime minister seemed to favour the development of atomic weapons was apparent in a number of decisions made by the Labour government in 1945 and 1946. On 10 August 1945, Attlee set up a special ad hoc Committee (GEN 75) to act as "a forum for decision-making on atomic energy policy."<sup>22</sup> This was followed in January 1946 by the appointment of Lord Portal, a former Air Chief, as the controller of Production of Atomic Energy in the Ministry of Supply; and, in August 1946, the COS placed a requisition for an atomic bomb. By this stage, however, the government still had not made a formal decision to develop nuclear weapons.

In August 1946, despite the wartime agreements with the Americans at Quebec and Hyde Park, the *McMahon Act* was passed in the United States cutting off the possibility of nuclear collaboration with Britain.<sup>23</sup> This course of events raised the question of whether Britain should go ahead with its own independent nuclear programme. On 19 November 1946 Portal wrote to Attlee arguing that a formal decision by the government was required. This led to a special, highly secret, meeting of a select group of government ministers (GEN 165), which met on 8 January 1947. The Committee was faced with three options: not to develop atomic weapons; to develop atomic weapons through the normal process via the Ministry of Supply and the Service Department; or develop the weapons using "special arrangements" to keep the production secret. Ernest Bevin, the foreign secretary, argued that it was vital for Britain to develop atomic weapons because "she could not afford to acquiesce in an American monopoly of the new development." All the ministers present agreed, supporting the third option to ensure that the production of the weapons remained secret.<sup>24</sup> This was also the view of the key scientists involved in work on atomic weapons. The scientist, William Penney, known as "the father of the British atomic bomb," was of the strong belief that: "The discriminative test for a first class power is whether it has made an atomic bomb and we have either got to pass the test or suffer a serious loss of prestige both inside the country and internationally."<sup>25</sup>

The Official Historian, Margaret Gowing, has argued that the decision was not the result of a perception by those involved of an immediate threat to Britain, although anxieties about the Soviet Union were growing at the time. Rather, it was the result of:

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 the 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 numbers of men, must depend.<sup>26</sup>

Apparent here are the deep-seated ideas and beliefs inherent in British strategic culture that emphasised Great Power status, the utility of capital weapon systems to deter threats, and the importance of staying at the leading edge of scientific and technological prowess to offset deficiencies in manpower. These were all important attributes of Britain's historic approach to national security.

That the decision to develop nuclear weapons was not taken until January 1947 raises the question of why the decision was not taken earlier. In part, it may have been the result of the pressure of events facing the post-war Attlee government, especially reconstruction at home and mounting difficulties abroad. But it also may have been due to the prime minister's own rather ambivalent attitude towards the issue of international control of atomic energy that was being discussed in the immediate post war period. In a long letter to President Harry Truman in September 1945, Attlee argued that few people realised the revolutionary significance of the recent events at Hiroshima and Nagasaki. "Never before," he said, had there been a weapon that could "suddenly and without warning be employed to destroy utterly the nerve centre of a great nation."<sup>27</sup> This represented, he believed, a qualitative change in the nature of warfare. From now on "the only deterrent is the possibility of the victim of . . . an attack being able to retort on the visitor." There was a real danger, however, Attlee believed, that deterrence might breakdown, leading to the deaths of millions of people.

This deep anxiety about what a future war might bring led Attlee to argue for some form of international control of atomic energy. This saw him consider the possibility of an arrangement that would involve sharing information with the Russians. "The most we have is a year's start," he cautioned. "The only course which seems to me to be feasible and to offer a reasonable hope of staving off imminent disaster for the world is joint action by the USA, the UK and Russia, based upon stark reality." Attlee believed that time was short and "only a bold course can save civilization."<sup>28</sup>

In his letter to Truman, he outlined his belief that it was necessary to adopt "new thinking about the whole basis of international politics" in the

nuclear age. This would involve “far reaching changes in the relationship between states.” He argued:

We have, in fact, in the light of this revolutionary development to make a fresh review of world policy and a new evaluation of what are called national interests . . . we have to secure that these developments are turned to the benefit rather than to the destruction of mankind. We must bend our utmost energies to secure that better ordering of human affairs which so great a revolution at once renders necessary and should make possible.<sup>29</sup>

In such circumstances, he argued, “acts of faith” were called for.

Building on Attlee’s appeal for “new thinking,” Bevin told a meeting of the ad hoc GEN 75 Committee in October that “Britain had everything to gain and little to lose by making Russia party to knowledge of the atomic bomb process.” It would, he said, “be worth trusting to their good faith” by negotiating an international control agreement. It was conceivable, he believed, that taking the Russians into the West’s confidence might have a disproportionate effect on the atmosphere of international relations. As he told his colleagues: “We should take the risk of giving this information to the Russians in the interests of our foreign policy.”<sup>30</sup>

Interestingly, this view was not confined to the prime minister and foreign secretary. Together with a number of Cabinet members, the British ambassadors in Washington and Moscow held similar views. It was felt that Russia would sooner or later develop such weapons and, if no information was passed on to them, such a course would lead to deep resentment and further suspicion of the West. According to one member of the Cabinet, “if it is our policy to build world peace on moral foundations rather than on the balance of power we should be prepared to apply the principle at once to the atomic bomb.”<sup>31</sup>

Within weeks of these views being expressed, however, both Attlee and Bevin were having serious doubts about sharing atomic secrets with the Russians. Bevin, in particular, was coming to the conclusion in late October that “Russian policy had shown no variation” and Moscow should not be let in on the secret without getting something in return. This change in thinking appears to have been due to robust advice that the foreign secretary was receiving from officials and intelligence agencies. In their view, the offer of information about atomic energy to the Soviet leaders would have no effect on their behaviour. Russian policy, they argued, was strictly realist in outlook and unlikely “to be influenced by motives of gratitude: They would regard such an offer with suspicion.”<sup>32</sup>

Attlee’s views were also changing at the same time. Faced with advice from both the Foreign Office and the military chiefs, he was now only prepared to offer some basic scientific knowledge to the Soviet Union, but any

practical technical information about how to construct nuclear weapons, he now agreed, would have to wait until the climate of relations improved. The prime minister, however, was not yet ready to give up entirely on his ideas about some form of international control. In November 1945 he met Truman in Washington to discuss the way forward. He remained convinced that: "A real attempt must be made to build a world organization upon the abandonment of power politics"; and that "the new World Order must start now." Attlee nevertheless accepted that whilst every effort had to be made to abandon power politics and build up the United Nations (UN), Britain and the United States had to deal, for the moment at least, with the world as it was—with all its imperfections. The international control of nuclear weapons was an important goal to pursue but, until that time came, it was important to ensure that Britain acquired the most effective weapons available to protect the nation's vital interests.<sup>33</sup> Margaret Gowing has summed up the prime minister's quandary in the following way:

While waiting for mutual trust to be established and Utopia to arrive, each . . . power must look to its own interests and make itself as strong as possible in nuclear weapons, even if thereby mutual trust was engendered and the chances of international control diminished.<sup>34</sup>

The result of this dilemma was reflected in the Washington Declaration on 15 November 1945, signed by Truman, Attlee, and Mackenzie King, the Canadian Prime Minister who also attended the meeting. The declaration emphasised the importance of international control "given the terrible realities of the application of science to destruction."<sup>35</sup> The three leaders also urged the UN to set up a commission to make specific proposals for sharing knowledge for peaceful purposes and for "the elimination from national armaments of atomic weapons and all other major weapons adaptable to mass destruction." The next day, however, an additional secret memorandum was signed that agreed to "the full and effective cooperation in the field of basic scientific research between the three countries, especially in the exchange of raw materials for nuclear production."<sup>36</sup> One part of the Washington Agreement therefore emphasised international control for the benefit of the human race, whilst another part of the Agreement stressed the importance of close bilateral and trilateral relations to restrict knowledge to those who already had it. In a rather contradictory fashion, nuclear weapons therefore inspired both idealism and, at the same time, the most sober calculations of *realpolitik*.<sup>37</sup>

The Labour government's top military advisers, in particular, were extremely sceptical about the chances of international control being successful, and they emphasised the need for a national nuclear capability given their growing concerns about the intentions of the Soviet Union. The COS agreed that an attempt should be made to achieve international

control because, they argued, it was “probably the only alternative to mutual destruction.” But any agreement in their view must include “the most unequivocal and comprehensive rights of inspection”:

Russia is a country which appears to have both the national resources and the remote areas for the secret development of atomic weapons. There is the obvious danger that we and the Americans might be led to agree not to produce atomic weapons while Russia secretly carried out their research and production in remote areas of the Soviet Union. The right of inspection will provide no security unless it is completely comprehensive. How this is to be achieved under the present Soviet system is the crux of the problem.<sup>38</sup>

Until this problem was resolved, and the COS did not believe it could be resolved, Britain should develop its own national nuclear deterrent capability. It was views—beliefs—such as these that helped convince Atlee finally to go ahead with the production of nuclear weapons.

Somewhat partisan attempts were made by the United States and Soviet Union in 1946 for a method of international control. In June, the United States submitted the Baruch Plan to the UN, whereby the peaceful benefits of nuclear energy could be explored with other nations if the international organisation could establish “absolute and effective agreement for worldwide inspection and control.”<sup>39</sup> Washington wanted effective controls in place before giving up its nuclear monopoly. In contrast, however, Moscow wanted the United States to give up its nuclear capability before agreeing to intrusive inspection. As a result, international agreement proved not to be possible within the climate of deepening mistrust.

Following passage of the American *McMahon Act*, there was a widespread belief that Britain remained a Great Power, second only to the United States and the Soviet Union. As atomic weapons were seen by many as “the last word” in weapons, so they felt Britain had to have them; and there was a reluctance in government and defence circles to become overly dependent on the United States. Reflecting this view, Bevin argued forcefully that Britain had to push ahead with its own programme “so that it could negotiate with the US government on the basis of equality.”<sup>40</sup> This concern that the United States should not be allowed to retain a monopoly of nuclear weapons remained an important feature of British policy in the years ahead.

Increasingly, however, it was also recognised that close collaboration in nuclear matters with the United States would be of critical importance to Britain’s longer term security. Between 1948 and 1958, numerous attempts were made by both Labour and Conservative governments to have the *McMahon Act* repealed or amended and reopen a nuclear partnership with the United States. In 1948 a *Modus Vivendi* Agreement was signed that opened up an exchange of information on medical issues relating to

health and safety, extraction chemistry, natural uranium reactors, and general research experience with low-power reactors. This arrangement was generally disappointing to the British, however, and following the first Soviet atomic test in August 1949, new talks took place that opened up the possibility of the British relying on an American stockpile of atomic weapons based in Britain, whilst continuing its own research programme. Fuch's arrest in January 1951 dashed hopes of an immediate agreement.

For Britain, it was believed that the only hope was to continue with its own independent programme to convince the American government that it had something to offer. This strategy was becoming increasingly difficult, however, in the early 1950s: the United States—in 1952—and then the Soviet Union—in 1953—moved on to develop thermonuclear weapons just as Britain's atomic programme came to fruition with its first test at Monte Bello on 3 October 1952. Thus, the British were effectively playing catch-up again and, from the point of view of the United States, Britain did not appear to have too much to offer aside from bases for American bombers that had limited range and could not reach the Soviet Union from the United States mainland. At the time, one American Congressman asked about the possibility of nuclear co-operation with the British in rather dismissive terms—"We would be trading a horse for a rabbit," he said.<sup>41</sup>

In 1954, however, the United States government finally agreed to a limited amendment of the *McMahon Act*. For the new Conservative government in Britain, led by Churchill, this willingness was a significant step forward; but the new United States *Atomic Energy Act* did not open up the prospect of any American help with thermonuclear weapons. Between April and July 1954, therefore, a special H-Bomb Committee (GEN 465) met to discuss whether Britain should develop its own thermonuclear weapons. In the debates that followed, three key issues were important. First, the development of such weapons was seen by some members of the government as a *sine qua non* for re-establishing much greater collaboration at a later date with the United States. Indeed, thermonuclear weapons could help Britain achieve greater interdependence with the United States.<sup>42</sup> Another important factor concerned United States strategic plans. At this time, there was a growing concern in both British political and military circles that worrying trends in United States nuclear policies might lead Britain into a war with the Soviet Union even though Britain did not have a full understanding of American planning. Even Churchill believed that:

The danger is that the Americans may become impatient. I know their people—they may get angry and say. . . . Why should we not go it alone? Why wait until Russia overtakes us? They could go to the Kremlin and say: These are our demands. Our fellows have been alerted. You must agree or we shall attack you.<sup>43</sup>

Some members of the GEN 465 Committee believed that only through the development of British thermonuclear weapons could Britain have an influence over United States strategic planning.<sup>44</sup> The third key issue was the strong belief amongst some members of GEN 465 of the importance of a thermonuclear capability to Britain's continuing role as a Great Power. This view was particularly that of the prime minister. Churchill told the Cabinet in July 1954 that Britain "could not expect to maintain its influence as a world power unless it was prepared to develop the most up-to-date nuclear weapons."<sup>45</sup> It was a view strongly supported by the COS. Sir Rhoderick McGrigor, the chief of the Naval Staff, argued that Britain was "a leading world power" and had "a position to maintain in world affairs." He strongly believed, he said:

If our influence were to decline it would be virtually impossible to regain our rightful place as a world power. It was essential that the United Kingdom should have the ability to produce the H-bomb in order that she could claim membership of the Allied H-Club.<sup>46</sup>

These were not, however, the only views considered by the Cabinet Committee. One Committee member argued that British thermonuclear weapons would encourage further nuclear proliferation. According to this view, the wider expansion of nuclear weapons would in the longer run work against British interests. More specifically, it was argued that a decision by Britain to refrain from the development of thermonuclear weapons would have a powerful impact on West German thinking and would encourage the West Germans to abstain from developing such weapons themselves, despite their growing technological and scientific expertise.<sup>47</sup>

Such arguments, however, were not accepted by the Committee as a whole. Most members did not believe that West Germany would be encouraged by a British H-Bomb programme. Nor did they accept that broader nuclear proliferation would occur as a result of a British decision in favour of such weapons. Backed strongly by the COS and leading nuclear scientists, the government decided in July, therefore, to move beyond the atomic bomb programme to develop Britain's own thermonuclear weapons.<sup>48</sup>

These decisions led, within three years of intensive efforts, to the "Grapple" test series from May 1957 to September 1958 in which British scientists and weaponeers demonstrated the ability to develop boosted-fission and thermonuclear weapons. Together with the perceived growing threat to the West caused by the Soviet Sputnik launch in October 1957, these efforts finally led to the amendment of the *McMahon Act* in July 1958 to restore full Anglo-American nuclear weapons collaboration. The "Agreement for Co-operation on the Uses of Atomic Energy for Mutual Defense Purposes" (MDA) allowed for the exchange of information on the production and

design of nuclear warheads and the transfer of fissile material between the United States and Britain. In 1959, the agreement was amended to allow for an exchange of Uranium 235 for Plutonium and the procurement by Britain of component parts of nuclear weapons.<sup>49</sup> As such, the 1958 MDA and 1959 amendment ushered in a period of nuclear interdependence that has lasted through to the present day.

At the time that the “Grapple” tests were taking place, there were pressures on the Conservative government of Harold Macmillan, both domestically and externally, to enter into a formal agreement prohibiting nuclear tests. These early ideas to create co-operative international rules to regulate East–West hostility were later to be supported by Macmillan in the negotiations that led to the Partial Test Ban Treaty in 1963. In the late 1950s, however, it was believed to be much more important to develop Britain’s own thermonuclear capability, for reasons of national security and to enhance British diplomatic interests, before such restrictions were introduced. There was a recognition of the value of moving towards a more rules-based approach to international security, but not before Britain had developed its own effective nuclear capability, in case such an approach—believed to be likely—proved to be ineffective.<sup>50</sup>

The important role of elite beliefs relating to “independence” and “interdependence” continued to reveal themselves in the years ahead. In 1960 the potential vulnerability of Britain’s nuclear delivery systems, the V-Bomber and the proposed Blue Streak missile system, led to a decision to purchase the air-launched Skybolt system from the United States. The subsequent American cancellation of Skybolt resulted in a crisis in Anglo–American relations with the need for Britain to find a fully assured, economically viable, and survivable means of delivery. This need was met in December 1962 at Nassau in the Bahamas when Macmillan, President John F. Kennedy, and their advisors came to an agreement for the sale of Polaris to Britain. And in April 1963, a detailed Polaris Sales Agreement (PSA) was signed between the two countries. The PSA became the vehicle for the transfer of Polaris technology to Britain with Britain agreeing at Nassau to commit Polaris to NATO—alongside a national right of withdrawal where “supreme national interests were at stake.” The 1958 MDA and 1963 PSA fundamentally altered the entire basis of British nuclear weapons policy. No longer was there a truly independent British nuclear deterrent in all its aspects as had existed prior to 1958. Instead there was a co-operative nuclear alliance with the Americans based on what Macmillan liked to call “interdependency.”<sup>51</sup> At the highest political levels Harold Wilson, Macmillan’s Labour successor as prime minister in 1964, and other senior figures in the Cabinet felt that possession of the nuclear deterrent brought with it international importance that could not be claimed through conventional means.

Denis Healey, Labour’s Defence secretary from 1964 to 1970, comments in his memoirs: “they [the UK Polaris submarines] would give Britain more

of an influence, particularly in Washington, during the coming revision of NATO strategy, and because they would tend to reinforce the credibility of the American deterrent.”<sup>52</sup> Healey also stated that it was “essential that we had a system which could commit the Americans if *we* used it. It was a kind of insurance policy”; an insurance policy and “catalytic deterrent” that offered Western Europe a second centre of nuclear decision-making.<sup>53</sup>

Moreover the Labour Party could have cancelled Polaris but chose not to do so. Despite a strong pacifist tradition within the Party, the majority view within the Cabinet was that Britain’s nuclear capability had significant utility in enhancing British diplomatic and security interests. The arguments for the retention of an effective strategic nuclear capability were couched in terms of international prestige, with the loss of a considerable amount of influence should the UK relinquish its deterrent and leave France as the only nuclear weapons state in Western Europe. Deterrence, however, was also important. It was pointed out that:

The military repercussions could be equally serious . . . the argument turns on the question whether it is realistic to suppose that we should ever be prepared to confront the Soviet Union with the threat of unilateral United Kingdom nuclear retaliation—i.e., whether we should ever seriously wish to threaten the Russians that we would destroy, by a single-handed act of our own, a large number of major Russian cities. If we must concede that it is not impossible to foresee circumstances in which . . . we should feel bound, once again, to react to a threat to our independence as we reacted to the summer of 1940.<sup>54</sup>

This evocation of the Battle of Britain once again offers a key insight into British strategic culture and the reflection of state values and norms rooted in historical experience.<sup>55</sup> It was noted that nuclear weapons were not only an ultimate guarantee of territorial integrity but also reassurance that should America once more become “isolationist,” the British strategic deterrent, through Polaris, could be used as a nuclear tripwire making the USSR pause before initiating an attack. Moreover it was believed that nuclear weapons gave Britain the ability to punch above its weight militarily, and this advantage could not be reclaimed through conventional means that would increase the vulnerability of key British assets to blackmail by medium-sized nuclear states. By the early 1960s, these “nuclear beliefs” had become firmly embedded in the thinking of most of the national political, scientific, and military elite in Britain.

This analysis has argued that the key reasons for the development of a British nuclear capability can be found in a number of “nuclear beliefs” shared by important and influential political, military, and scientific figures in Britain. This “nuclear belief system” had six essential characteristics. First, it was believed that nuclear weapons were necessary ultimately to ensure

the nation's survival as a sovereign state. Second, as a related belief, there was a strongly held view that nuclear weapons were needed because other adversaries or potential adversaries might develop them. Third, apart from a brief period in 1949, those who advocated an independent programme argued that nuclear weapons should be developed and retained because even the closest of allies might not come to Britain's assistance in times of crisis. Fourth, it was believed that an independent programme would serve British interests towards the United States in a number of important ways. These included helping to influence US nuclear strategy; serving to bind the United States closer to British security; providing advanced scientific and technical information to improve the British nuclear programme; and providing economic savings through cooperation. Fifth, as the COS argued, it was believed that Britain had "an inalienable right" to produce such weapons.<sup>56</sup> And last, supporters shared the belief that Britain was a Great Power and, as such, required a nuclear capability to confirm that status. Developing atomic weapons and later thermonuclear weapons was, to use Brian Cathcart's phrase, "a test of greatness."<sup>57</sup> In a follow-on article in *Diplomacy and Statecraft*, it will be shown how these ideas and beliefs continued to be at the heart of the British nuclear programme through the rest of the Cold War and down to the present day. The difficult task of changing such ideas and beliefs is a central issue of the non-proliferation project.

## NOTES

1. According to Buzan and Hansen, "Conventional Constructivism" locates itself within a "traditional, narrow definition of security studies" in which the task is to take the "hard case" of national, military, state-centric security, but to explain it through the role of ideas and beliefs rather than material factors. It is distinguished from "Critical Constructivism" that analyses "discourses and the linkages between the historical and discursive constitution of identities on the one hand and security policies on the other." See B. Buzan and L. Hansen. *The Evolution of International Security Studies* (Cambridge, 2009) pp. 192–200. See also P. J. Katzenstein, ed., *The Culture of National Security: Norms and Identity in World Politics* (New York, 1996), pp. 10–11.

2. M. Ceadel, *Thinking About Peace and War* (Oxford, 1989), pp. 72–73.

3. This line of reasoning is closely associated with Hans J. Morgenthau, *Politics Among Nations: The Struggle for Power and Peace*, Fifth Edition, Revised, (New York, 1978).

4. See A. Macmillan, *Strategic Culture and British Grand Strategy 1945–52*, (PhD. Thesis, University of Wales, Aberystwyth, 1996). See also Richard Maguire, "The Nuclear Cultures of British Governments, 1945 to 1968", *British Journal of the History of Science*, (forthcoming 2012).

5. For an interesting and controversial study of Britain and the balance of power see John Charmley, *Splendid Isolation? Britain, the Balance of Power and the Origins of the First World War* (London, 1999).

6. I. Clark and N.J. Wheeler, *The British Origins of Nuclear Strategy 1945–55* (Oxford, 1989). For discussion of the effect of the Blitz on British thinking, see Mathew Grant, *After the Bomb, Civil Defence and Nuclear war in Britain, 1945–68*, (Basingstoke, 2010).

7. The six scientists were G.P Thomson, Mark Oliphant, P.M.S. Blackett, James Chadwick, P.B. Moon and John D. Cockcroft. "Maud" was a code-name designed to obscure the work of the Committee. For the origins of this name, see L. Arnold and M. Smith, *Britain, Australia and the Bomb; The Nuclear Test and their Aftermath* (London, 2006), p. 293. It was the result of a mistaken understanding of correspondence between Niels Bohr and Otto Frisch. This source also has a very good explanation of

the importance of the Frisch-Peierls Memorandum, produced in Spring 1940, which first explained the method needed to separate uranium-235 and the possibility of producing an atomic weapon.

8. Their estimate was that the material for the first bomb could be ready by 1943.

9. [www.atomicarchive.com /Docs/Begin/Maud.shtml](http://www.atomicarchive.com/Docs/Begin/Maud.shtml).

10. Ibid.

11. The Maud Report was shown to Vannevar Bush and James Conant, the new head of the National Defense Research Committee. They initiated further studies that led to the Manhattan Project.

12. Arnold and Smith, *Britain, Australia*, p. 3.

13. Ibid.

14. "The RAF Strategic Nuclear Deterrent Forces," pp. 1–2, AIR (Air Ministry Archives, National Archives, Kew, London) 41/87. Tizard chaired an ad hoc scientific committee set up by the Joint Technical Warfare Committee that reported to the COS. Tizard's Committee included J.D. Bernal, P.M.S. Blackett, C.D. Ellis, and G.P. Thompson, all of whom were very distinguished scientists. Blackett and Thompson had been on the Maud Committee.

15. "Effect of the Atomic Bomb on Warfare," DNOR, 4 September 1945 ADM (Admiralty, Archives, National Archives, Kew, London) 1/117259.

16. TNA, Hollis to Prime Minister, 10 October 1945, PREM (Prime Ministers' Office Archives, National Archives, Kew London) 8/116.

17. See Grant, *After the Bomb*.

18. See J. Baylis, *Ambiguity and Deterrence: British Nuclear Strategy 1945–1964* (Oxford, 1995), p. 48. See also "The RAF in 1956, Report by the Future Planning Staff, 6 February 1947," AIR 20/7063.

19. DCOS (AWC) (46)1, 30 January 1946, CAB (Cabinet Archives, National Archives, Kew London) 82/26,

20. Jacob to Attlee, 12 November 1945, PREM 8/115. Professor Blackett won the Nobel Peace Prize for Physics in 1948.

21. Ibid. By 1949, Sir Henry Tizard also argued against British nuclear weapons on the grounds that other vital areas of defence would be adversely affected and it was better to rely on the United States to provide the nuclear deterrent force.

22. Margaret Gowing, *Independence and Deterrence: Britain and Atomic Energy 1945–1952*, Volume 1: *Policy Making* (Basingstoke, 1974), pp. 21–22.

23. It appears that Senator McMahon was not informed about the Quebec and Hyde Park agreement when he formulated his Bill for congress. See Gowing, *Policy Making*, p. 107.

24. Secrecy was an important part of the British decision. The decision to develop atomic weapons was revealed to Parliament obliquely in 1948. "D" notices were used to prevent any discussion about these developments in the Press.

25. Quoted in B. Cathcart, *Test of Greatness: Britain's Struggle for the Atom Bomb*, (London, 1994), p. xvi

26. Gowing, *Policy Making*, p. 84.

27. "Letter from Mr Attlee to President Truman, 25 September 1945," reproduced in Ibid., pp. 78–81.

28. Ibid. See also CAB 130/3, Gen 75/1.

29. Ibid.

30. TNA, CAB 130/2, Gen 75, 4th mtg., 11 October 1945.

31. Baylis, *Ambiguity and Deterrence*, p. 123.

32. Gowing, *Policy Making*.

33. CAB 130/3, Gen 75/1.

34. Gowing, *Policy Making*, p.72.

35. A copy of the Washington Declaration is reproduced by Gowing, *op.cit.*, pp. 82–4.

36. The "Groves Anderson" memorandum, 16 November 1945, Ibid, pp. 85–86.

37. Ibid., p. 77

38. Quoted in "The RAF Strategic Nuclear Deterrent Forces," AIR 41/87.

39. "Senator Vandenberg on Atomic Energy," *Bulletin of Atomic Scientists*, 8/5(1952), p. 152.

40. See Gowing, *Policy Making*, p. 209.

41. Quoted in *Policy Making*, p. 183.

42. Ibid, p. 450.

43. Lord Moran, *Winston Churchill: The Struggle for Survival, 1940–1965. Taken from the Diaries of Lord Moran* (Boston, 1966), p. 580.

44. CC 48(54), 8 July 1954, CAB 128/27,

45. CC 47(54), 7 July 1954, CAB 128/27,
46. "Note by the First Sea Lord," 12 May 1954, DEFE (Ministry of Defence Archives, National Archives, Kew, London) 4/70.
47. This was the view of Nigel Birch; CC 48(54), 8 July 1954, CAB 128/27..
48. Ibid.
49. See J.Baylis, "Exchanging Nuclear Secrets: Laying the Foundations of the Anglo–American Nuclear Partnership," *Diplomatic History*, 25(2001), pp. 33–61; and idem., "The 1958 Anglo–American Mutual Defence Agreement: The Search for Nuclear Interdependence," *Journal of Strategic Studies*, 31/3(2008), pp. 425–66.
50. Interview with Harold Macmillan by one of the authors: 28 August 1979.
51. Harold Macmillan, *At the End of the Day 1961–1963* (Basingstoke, 1973), p. 335.
52. Denis Healey, *The Time of My Life* (London, 1990), p. 302.
53. "Recollections of a Secretary of State for Defence," *Journal of the Royal Air Force Historical Society*, 31(2004), p. 12. The "second centre" role became a formal part of NATO policy under the Ottawa Declaration, 1974. NATO Documents Website: <http://www.nato.int/docu/basicxt/b740619a.htm>, accessed 14 September 2007.
54. Burke Trend to Prime Minister, 1 December 1967, CAB 165/600.
55. On strategic culture, see Jack Snyder, "The Soviet Strategic Culture: Implications for Limited Nuclear Operations" (1977): [www.rand.org/pubs/reports/R2154.html](http://www.rand.org/pubs/reports/R2154.html). Alastair Iain Johnston, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History* (Princeton, NJ, 1995); and Jeannie L. Johnson, Kerry M. Karchner, and Jeffrey A. Larsen, eds., *Strategic Culture and Weapons of Mass Destruction: Culturally Based Insights into Comparative National Security Policymaking* (Basingstoke, 2009). See also Alexander Wendt, "Anarchy is what states make of it: The social construction of power politics," *International Organization*, 46/2(1992), p. 391–425; and idem., *Social Theory of World Politics* (Cambridge, 1999) for social constructivist arguments that offer further insights into strategic cultural approaches.
56. Ceadel, *Peace and War*.
57. Cathcart, *Test of Greatness*.