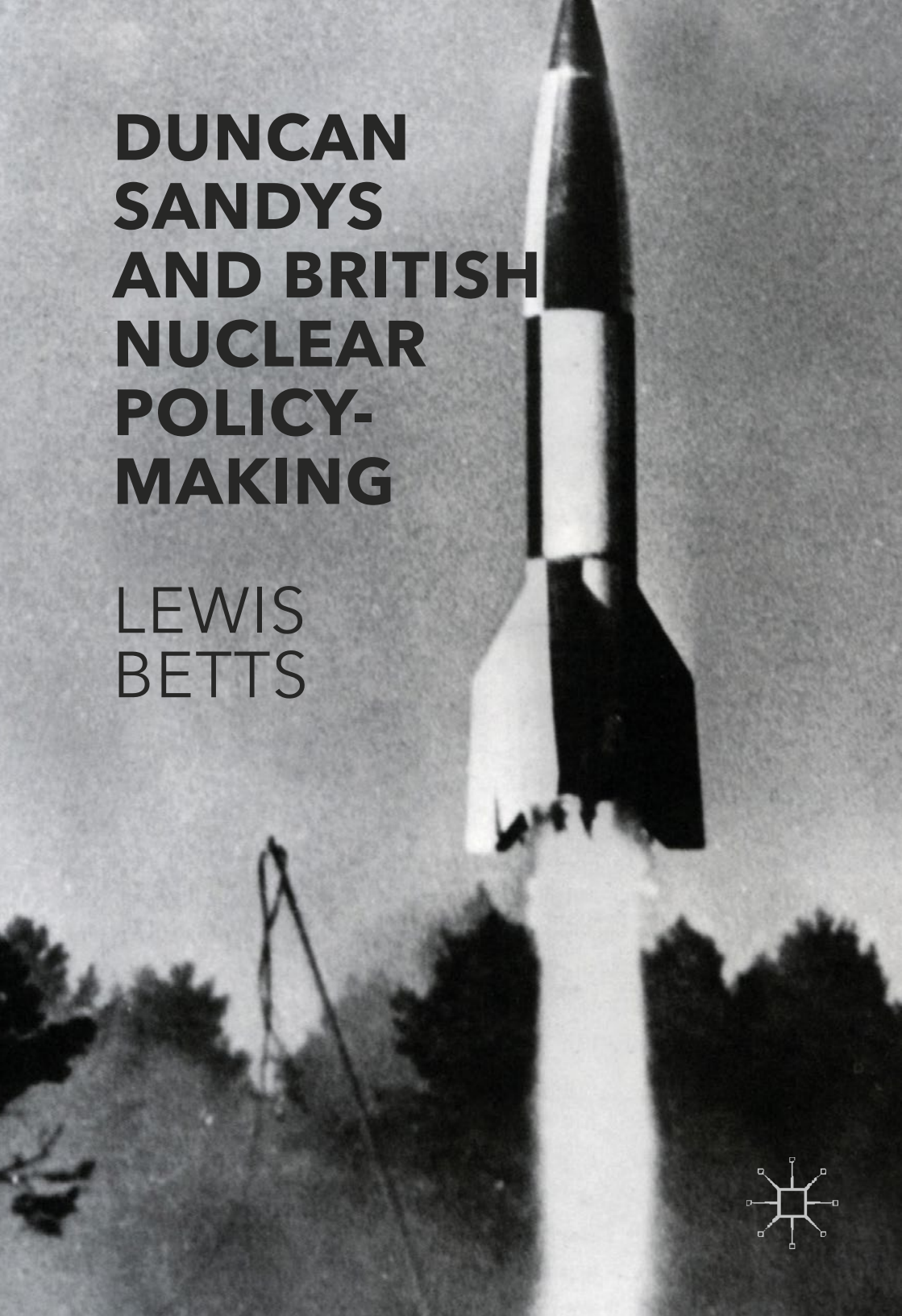
DUNCAN SANDYS AND BRITISH NUCLEAR POLICY-MAKING

LEWIS BETTS



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Lewis Betts

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Lewis Betts
Independent Scholar
Hedon, United Kingdom

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Contents

CHAPTER 1

Introduction

Duncan Sandys was one of the most significant British politicians of the 1950s, serving in successive Conservative administrations from 1951 to 1964, and holding a number of key posts. Most significantly, he was Minister of Defence at the time of the controversial 1957 White Paper on Defence, which set out a radical vison for the future of the British military, and would have profound effects on defence policy and the defence industry in the years that followed. Yet, unlike many politicians of his generation, Sandys has not been the subject of any detailed study. There have been no biographies published, and his personal memoirs remained unfinished, with entire sections incomplete or missing.[1] In the absence of any serious historical interest, and when not simply referring to him to in passing as Winston Churchill's son-in-law, the discussion of Sandys tends to focus on his supposedly difficult character—we hear that Harold Macmillan thought that his prickly character might have been down to 'German blood', and that Ian Smith, the notably intransigent Rhodesian white minority leader with whom Sandys dealt with as Secretary of State for the Colonies, found him 'abrupt, even tending to aggressiveness', and 'completely devoid of those qualities of diplomacy and tact associated with British "statesmen"'.[2]

This lack of interest in Sandys means that we are left with an incomplete understanding of the man and his policy preferences. This book argues that this represents a significant gap in our knowledge, and that failure to properly understand Sandys weakens our comprehension of British nuclear policy-making since 1945. Sandys was an important figure in that

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field during the pivotal decision-making years that saw both the creation of British nuclear weaponry, and significant developments in British strategic thinking about how to use these new weapons, and it is only through careful analysis of how his approach to the Cold War was influenced by his experiences of the Second World War that several major decisions taken by Britain in pursuit of its independent nuclear capabilities can be properly understood.

Where Sandys has been discussed in direct relation to the policy-making process, historians have tended to neglect any meaningful analysis of the influence that his experiences and memories of the Second World War came to have on his policy preferences. Martin S. Navias has studied Sandys' first year at the Ministry of Defence, writing that the Second World War had left a 'lasting impression' on him insofar as he 'considered himself well cognizant of the major changes taking place in the realm of military technology—especially when it came to missile and nuclear weapons and their implications'.[3] Unfortunately, in framing Sandys' experiences as having developed into little more than a loosely defined reference point, rather than a sincerely-held and intellectually coherent strategic concept, Navias' analysis tends to misinterpret the motives behind Sandys' decision-making by emphasising his 'predilection towards cost-cutting'.[4] To date it has been this focus on spending reductions that has dominated what little discussion there has been of Sandys, which has led to some historians minimising Sandys' role in the policy shifts laid down in the pivotal 1957 White Paper, where British defence policy was re-orientated to rely on the nuclear umbrella at the expense of other branches of the military.

Whilst Sandys is often credited with utilising his aforementioned abrasiveness to finally bring together the major themes of previous defence reviews, this interpretation merely perpetuates the idea that his policy choices were coldly logical reactions to existing defence debates and financial realities.[5] There was certainly a large degree of continuity in what Sandys proposed in 1957, but this book will contextualise that continuity by showing the part Sandys himself had played in setting the terms of those debates with the proposals he had put forward in 1953 and 1954 as the Minister of Supply during the so-called 'Radical Review'. In showing that there was a degree of consistency in Sandys' policy preferences over time, the economies he pursued can be seen as having been a significant aspect of his recommendations, but not something that was allowed to take precedence over what he considered to have been sound strategic concerns, the intellectual roots of which are to be found in his wartime reports for the committees tasked with defending Britain from unmanned German weapons.[6]

Nuclear Belief Systems

The idea that memories of the Second World War had had an influence on early British nuclear policies is not new. In her official histories of the British nuclear programme, Margaret Gowing described the decision to go nuclear as having been 'almost instinctive', and based partly on the belief that 'Britain as a great power must acquire all major new weapons'.[7] A. J. R. Groom and others thought likewise, conceding that although 'there can be no doubt that a Soviet threat was perceived … this strategic argument was itself a function of the political question regarding the rôle of nuclear weapons in shoring up Britain's position in the world'. This gave British nuclear capabilities a dual function as both the 'means to deter Moscow and to influence Washington'.[8] More recently, Susanna Schrafstetter and Stephen Twigge have given particular weight to the specific memory of 'standing alone' in 1940, with nuclear capabilities being seen as both a symbol of Great Power status and as a protection against Britain ever finding itself in such a perilous situation again.[9]

In addition to this 'soft' cultural aspect, historians such as Ian Clark and Nicholas J. Wheeler, who have sought to re-introduce strategic calculations into the debate, have written that 'an essential part of any history of British strategic thought in the nuclear age [is] to document the elements of continuity within it'.[10] This feeds into the use of so-called 'strategic cultures', and, in their recent history of British nuclear policy-making, John Baylis and Kristan Stoddart have used 'ideational factors' ('beliefs', 'culture', and 'identity') to provide a 'more helpful insight into the process of nuclear decision-making', and elsewhere they have summarised the uniquely British 'nuclear belief system' as having consisted of six major concerns. These were: the necessity of nuclear weapons as a guarantor of national survival; the fear of 'adversaries or potential adversaries' acquiring them; as a contingency in case 'even the closest of allies might not come to Britain's assistance in times of crisis'; to impress and influence the United States; the belief that Britain had 'an inalienable right' to be a nuclear weapons state; and as a confirmation of Great Power status. It was these ideas and beliefs of what has been characterised as a relatively small policy-making elite (in the political, military, and scientific spheres) that they suggest shows 'ideational, more than materialist, factors have been at the heart of British nuclear policy'.[11]

This conception of a 'nuclear belief system', as characterised by Baylis and Stoddart, still has deficiencies owing to its nature as something to be

subscribed to collectively, whether in a department of state or as a more general mood. When they stress the 'importance of shared values', the tenets of any particular idea become too wide-ranging to properly account for its intellectual origins.[12] Just as when Peter J. Katzenstein argues that 'security interests are defined by actors who respond to cultural factors', it becomes comparable to how Graham Allison explained the nature of governmental business, where 'deliberate choices' are overshadowed by 'large organisations functioning according to standard patterns of behaviour'.[13] This all serves to present a monolithic type of belief or culture, a kind of organisational memory, whether departmental or strategic, that simply exists as a non-specific influencing factor on those who happened to have encountered it. Martin Ceadel gives a good example of this when he cites 'defencism' as having been the main cultural factor at work during Cold War, describing it as a collective belief system where the policy-making elite generally subscribed to the idea that 'war can be prevented for indefinite periods, and that diplomacy as well as military force plays a part in achieving this', resulting in the prevailing belief that 'The best to be hoped for is … an armed truce'.[14]

The main drawback of defining beliefs and cultures as a general will in this manner is that it restricts the space for individual initiative. In his work in expanding the field of British nuclear culture, Richard Maguire has gone further, claiming that 'Beyond a general acceptance that the West needed some form of nuclear force to face the Soviet threat, there was no single, or even dominant, structure of explanation among the politicians, scientists, civil servants and military officers who discussed British nuclear weapons.' From this, Maguire argues that nuclear policy-making 'drew upon individual experience, political and social tradition, understandings of technology, and specific Cold War experience'.[15] If this was the case, then it should be acknowledged that within the policy-making ranks not all experiences carried equal weight, and John Simpson has written that, whilst nuclear decision-making remained firmly in the control of the 'Prime Minister of the day and selected members of Cabinet', politicians generally 'found themselves limited in their understanding … by their lack of detailed knowledge', leaving them 'increasingly dependent upon advice from officials'.[16] In light of this, the interaction between experiences and those policy-making processes that sought to ensure a more methodical approach is of particular interest. This is especially so when analysing policies devised to maintain Britain's supposed responsibilities as one of the victorious parties in the aftermath of the Second World War. Due to

the extensive mobilisation of British society that the Second World War required, almost everybody serving in any policy-making role throughout the 1950s and 1960s had previous war experiences to draw upon. This is the main reason why the defence backgrounds of politicians as individuals, where they can be discerned, deserves further study.

The Role of the Individual

The analysis of policy preferences as products of experiences and beliefs is a well-worn area of interest, particularly when the results of those experiences and beliefs prove to have acted as a restrictive force. One example of this would be the virtual consensus that has emerged to cast Macmillan's years as the Member of Parliament for Stockton-on-Tees, from 1924 to 1929 and then again from 1931 to 1945, as having been a 'prime conditioning factor in his domestic political thinking throughout the rest of his career'.[17] In a similar vein, Jeremi Suri's *Henry Kissinger and the American Century* sought to show Kissinger's policy preferences as having been shaped by his experiences of wider cultural shifts. The rise of Nazism, which forced his family out of Germany, taught him that democracies required 'decisive leaders' and 'protections against themselves'; and his status as a Jewish immigrant allowed him to rise through 'tradition-bound institutions' which valued 'outsiders'. Consequently, 'Having witnessed the violent "collapse" of a society filled with morally self-righteous figures, Kissinger defined his career as a response', leading him towards measures that 'insulated the day-to-day management of foreign policy from public interference'.[18]

Over the course of his biography, Suri does not shirk from criticising the inherent rigidity of such an approach, claiming that Kissinger struggled with 'challenges from people he did not understand', and that he failed to deal with 'ideas that ran against his basic assumptions and experiences'.[19] Barbara Keys has built upon this contention, contending that Suri and other biographers of Kissinger tend to treat their subject 'above all as an intellectual', and as a 'rational actor', relatively unaffected by day-to-day concerns. Keys therefore devotes particular attention to the relationships that Kissinger painstakingly forged with Soviet diplomats, arguing that they serve as the best explanation for him remaining 'obsessively wedded to bipolarism', when, had he lived up to his much-vaunted realism, he would have recognised that the world 'was entering a new era of multipolarity'.[20] Even though Kissinger embraced the new state of

affairs to the extent that he was still able to function in his capacity as both National Security Advisor and Secretary of State, Keys writes that his 'habit of approaching problems through this bipolar "cage" exacerbated instead of resolved them', citing his misreading of the Indo-Pakistan War (1971) and 'consistently overestimating Moscow's influence over Hanoi' as examples of this.[21]

This idea of an intellectual 'cage' is particularly interesting, and similar in some respects to previous studies of the 'operational code', which began with Nathan Leites' *A Study of Bolshevism*. This early attempt to 'portray the spirit of the Bolshevik elite' by analysing the writings they came to live by concluded that only somebody who 'lives to conduct politics' could become a leading Bolshevik, and Leites argued that, by subordinating a 'multi-dimensional life' to their politics, Soviet ideology (rather than normal human functions) was the one constant influence behind their actions.[22] Much like general definitions of beliefs and cultures, this was too broad an approach for accurately discerning the motives of policy-makers, and it was left to later political scientists to expand the idea. Ole R. Holsti's case study of John Foster Dulles, the United States Secretary of State (1953–59), was influential in this regard.[23] By looking through Dulles' statements regarding the Soviet Union during his period as Secretary of State, Holsti found that Dulles was often forced to manipulate information to make it sit more comfortably within his carefully-constructed world view, and to fit his image of the Soviet Union.[24] Holsti noted that this could be problematic from a policy-making perspective, and in a later study he analysed Dulles' well-documented interpretation of history that left him 'unburdened by doubts about the righteousness of his policies, the sinfulness of his enemies, or the "immorality" of those who would remain neutral in the conflict of good versus evil'.[25]

This study of Sandys is primarily concerned with the effect that his individual experience had in the nuclear policy-making process, but this has to be situated within the procedures associated with the defence policy of a democratic society. Furthermore, it suggests that it needs to take account of the differing levels of status within the policy-making process that Sandys carried according to his various roles. Alexander L. George wrote that 'operational code beliefs', whilst serving as a 'set of general guidelines', are unable to 'unilaterally determine the individual's choices of action' due to the existence of 'other variables'.[26] The 'other variables' had also been considered by Holsti, who found that the most rewarding situations for 'detailed investigations of decision makers' beliefs' to be situations

characterised by 'Nonroutine situations', the need for "Long-range policy planning', and where 'the situation itself is highly ambiguous'.[27] Holsti was also able to identify situations where an increased responsibility was placed on the individual, having been relatively isolated from collective decision-making procedures, as providing fertile ground for the use of individual beliefs in the policy-making process.[28] This echoed earlier work by Sydney Verba, who discussed how personal preferences were more likely to be called upon in more ambiguous situations where established procedures and group input were less apparent.[29]

British defence policy-making throughout the 1950s was characterised by such scenarios, and ambiguity was ever-present as policy was organised and re-organised in a strategic environment subject to rapid technological development and seemingly never-ending financial pressures.[30] George argued that 'an actor's beliefs' are more likely to be found in 'policy preferences' than the 'option he finally chooses', owing to the variables he cites ('domestic politics, organizational considerations, the necessity of compromise, etc.'), making preference, rather than final decisions, the 'dependent variable' in detecting the part played by beliefs in any decision.[31] The relevance of this to Sandys is that, whilst his policy preferences were only taken up in part whilst he was the Minister of Supply, he was the first Minister of Defence to be given overall control (subject to Cabinet approval) over both the broad direction of British defence policy and of decisions relating to equipment. This effectively gave him full control over the review of Britain's strategic posture, making his personal policy preferences, and their intellectual origins, of paramount importance in any analysis of policy-making during this period. Further, determining the impact of beliefs on 'decisional choices' requires two things. One is tracing in detail the 'steps in the process'; another is the identification of consistency between beliefs and decisions, which is first established on 'relevant behavioural data from his prior life history'.[32] Between his Second World War service and his rise to policy-making roles, Sandys provided clear 'relevant behavioural data' in the form of public statements and literary interpretations (some of questionable accuracy) concerning his experiences defending Britain from unmanned German weaponry. These statements are utilised here to provide an idea of what informed his policy preferences.

This approach to problem-solving also encroaches upon the idea of 'political myth', which is similarly relevant to Sandys' policy-making deci-

sions. Henry Tudor defined myth in this context as an 'interpretation of what the myth-maker (rightly or wrongly) takes to be hard fact':

> It is a device men adopt in order to come to grips with reality; and we can tell that a given account is a myth, not by the amount of truth it contains, but by the fact that it is *believed* to be true, above all, by the dramatic form into which it is cast.[33]

Paul Fussell famously described memoirs as a 'kind of fiction' dependent upon 'continuous implicit attestation of veracity or appeals to documented historical facts'.[34] Fussell was writing with reference to memories of the First World War, and the usefulness of the 'negative myths' surrounding it which has recently been addressed by Dan Todman, who argues that the 'changing circumstances' of Britain between the wars ensured that these myths 'retained an explanatory power' that guaranteed their 'survival and eventual dominance'.[35] The 'explanatory power' of Sandys' own myth-making is crucial to understanding the consistency in his personal belief system, and its importance in allowing him to determine its usefulness during periods of difficulty. Equally so, the failure of experiences in determining policy in its final form is equally deserving of further analysis, as Sandys certainly came to understand his wartime experiences in a fashion that differed from reality, which affected his approach to solving problems in the policy-making process. In this respect, the myth he created around his wartime experiences proved useful. This brings us back to what has been said about 'nonroutine' and 'ambiguous' situations providing the most appropriate circumstances for the use of personal belief systems in the policy-making process, and how we seek to contextualise Sandys and his policy preferences.

Chapter Outline

To show how Sandys had a significant effect upon British nuclear policy, this book follows the development and utilisation of his policy preferences in chronological fashion. However, in order to stay within designated word limits, it is unable to address his policy preferences in full, or to provide a general biographical study. Instead, focus is given to what can be directly linked to his experiences of the Second World War, namely how his strategic concept emanated from his ideas about unmanned weaponry. Where otherwise significant issues such as conscription, colonial with-

drawal, civil defence, and naval warfare are discussed, it is strictly in relation to how Sandys himself linked them to his primary policy preferences, such as his suggestion that Hong Kong did not require a colonial garrison as China could be deterred with strategic nuclear weapons, or his consistent opposition to the Royal Navy attempting to increase its role in plans for global warfare.

Chapter two starts by looking at Sandys' wartime activities and how he later interpreted the role he had played in defending Britain from unmanned German weaponry. By following his actions through official documents and related histories, and then comparing these with his later interpretations of events, it can be shown how Sandys came to exaggerate his contribution to the war effort by retrospectively assigning a greater importance to his campaigns against the V-1 and V-2 at the very time when his policy preferences were beginning to have an influence on official policy. Chapter three follows this by showing how Sandys first applied the perceived lessons of his war experiences to the policy-making process, arguing for a radical overhaul of British defence policy in 1953 and 1954 that would have seen Britain base its security on the descendants of the German weapons that had so impressed him a decade earlier.

Chapter four covers Sandys' first few months at the Ministry of Defence in 1957 as he put the 1957 White Paper on Defence together. When he arrived at the Ministry in January, Sandys was explicitly charged with overseeing the kind of thorough rethink he had previously advocated, and given increased powers to force it through. This concentration of power in the Minister of Defence came at a moment when the British government was entering a period of uncertainty and upheaval following the Suez Crisis (29 October–7 November 1956), which allowed Sandys to draw heavily upon his personal experiences and conceptions of warfare when reformulating British defence policy, provoking outrage in doing so. In this section it is argued that by this point Sandys had developed a coherent strategic concept based upon the idea of unmanned weaponry proving impossible to defend against, and, by analysing his public statements and the many different drafts of the White Paper, his determination to deviate as little as possible from this core idea becomes apparent.

Chapter five maintains this focus in exploring what might be seen as the 'negative' aspects of Sandys' willingness to utilise his war experiences as a policy-making tool. Having triumphantly published his White Paper in April 1957, Sandys immediately found it difficult to implement its main recommendations, as mounting costs and technological problems com-

bined to see him gradually lose control of the situation, until he eventually found himself sidelined by those eager to move away from what they considered to be a problematic weapons system (Blue Streak) and the policies that he and the government expected to base upon it. This section addresses his time at the Ministry of Defence following the publication of the 1957 White Paper, and how Sandys attempted to balance giving proper consideration to alternative nuclear weapon systems without wishing to provide the government with an excuse to lessen its commitment to Blue Streak and what he considered a meaningful definition of nuclear independence.

Finally, chapter six is devoted exclusively to Sandys and Blue Streak, the British-built, land-based ballistic missile system he hoped would provide the nation with an independent nuclear capability beyond the lifespan of manned bomber aircraft, and the failure of which he would become personally associated with. By following Sandys' involvement with the Blue Streak programme across both the Ministry of Defence and the Ministry of Aviation, where he watched on as it was cancelled as a weapon system, he emerges as somebody willing to have done everything in his power to ensure that Blue Streak was a success, including resorting to underhand methods, to the extent that he ended up being the only minister willing to defend the programme before it was cancelled in April 1960, bringing to a close the policies that he had based his defence plans upon.

Notes

1. His memoir consists of a 'Preliminary Outline of Contents' and some early drafts of several sections, but most of the proposed sections were simply marked 'not yet written'; *Duncan Sandys Memoirs* (28 January 1982); the Papers of Duncan Sandys, Lord Duncan-Sandys (1908–1987); Churchill Archives Centre, Cambridge; DSND 23/1.
2. Macmillan, H. and Catterall, P. (ed.), *The Macmillan Diaries: Prime Minister and After, 1957–1966* (London: Macmillan, 2011), pp. 128–129; Gerald Templer, the Chief of the Imperial General Staff during Sandys' first year at the Ministry of Defence, regarded Sandys as 'an interloper with little grasp of strategic issues in general or the heritage of the British Army'. He shunned speculation and simply physically attacked him before refusing to speak to him for twenty years; Navias, M. S., '"Vested Interests and Vanished

Dreams": Duncan Sandys, the Chiefs of Staff and the 1957 White Paper', in Smith, P. (ed.), *Government and the Armed Forces in Britain, 1856–1990* (London: The Hambledon Press, 1996), p. 223; Sandys remembered Templer as a 'fish out of water in Whitehall', adding 'When, at a lunch party twenty-two years later, I said: "Hello, Gerald", he replied: "Duncan, I still have no wish to speak to you"'; *Sandys Memoir*, 17/A/5; Smith, I., *The Great Betrayal: The Memoirs of Ian Douglas Smith* (London: Blake, 1997), p. 58.

3. Navias, M. S., '"Vested Interests and Vanished Dreams"', p. 219; similarly, C. N. Hill refers to Sandys as the 'strongest political personality' in his history of the British rocket and space programme, yet references to his background are limited to his having 'made an early reputation for himself during the war in the context of German guided weapons', and makes no mention of how this period influenced his outlook; Hill, C. N., *A Vertical Empire: The History of the UK Rocket and Space Programme, 1950–1971* (London: Imperial College Press, 2001), p. 19.
4. Navias writes that Sandys arrived at the Ministry of Defence in January 1957 'with a record indicating a predilection towards cost-cutting, reliance on nuclear deterrence and missiles, and a willingness to override service sensitivities'; Navias, M. S., *Nuclear Weapons and British Strategic Planning, 1955–1958* (Oxford: Clarendon Press, 1991), p. 140.
5. Navias credits Sandys with having recognised the 'poverty of Britain's resources' in defending him against charges of having lacked an appreciation of strategy; *Ibid*., pp. 248–249; Richard Moore follows a similar course to Navias in writing that Sandys' preference for unmanned weaponry 'reflected in part his involvement in the activities of the wartime Crossbow committee' (although he never expands on this and its direct effects on the policy-making process) having previously framed the White Paper as the result of Sandys following the 'logic' of instructions to reduce the defence budget and 'in particular to bring peacetime conscription to an end'; Moore, R., *Nuclear Illusion, Nuclear Reality: Britain, the United States and Nuclear Weapons, 1958–1964* (Basingstoke: Palgrave Macmillan, 2010), pp. 9–11 and p. 254; A. J. R. Groom said the 'lines of policy that were to lead to the Sandys Defence White Papers had evolved from 1951 onwards';

Groom, A. J. R., *British Thinking About Nuclear Weapons* (London: Frances Pinter, 1974), p. 92; Desmond Wettern accuses Sandys of attempting to replace conventional forces with a 'still unproven nuclear deterrent system', but provides no background information as to what could have sent him down this course, and makes no mention of his previous opposition to certain naval programmes as Minister of Supply; Wettern, D., *The Decline of British Seapower* (London: Jane's, 1982), p. 172.

6. David French has written that Sandys' 'ideas about the right shape of defence policy had begun to form in 1953, during his period as Minister of Supply'. This book argues that the formation of these ideas began many years before; French, D., *Army, Empire, and Cold War: The British Army and Military Policy: 1945–1971* (Oxford: Oxford University Press, 2012), p. 159.
7. Gowing, M., *Independence and Deterrence: Britain and Atomic Energy, 1945–1952, Vol. I* (London: Macmillan, 1974), p. 184.
8. Groom, *British Thinking About Nuclear Weapons*, p. 576; see also: Pierre, A. J., *Nuclear Politics: The British Experience with an Independent Nuclear Force, 1939–1970* (London: Oxford University Press, 1972), p. 304.
9. Schrafstetter, S. and Twigge, S., A*voiding Armageddon: Europe, the United States and the Struggle for Nuclear Nonproliferation, 1945–1970* (Westport: Praeger, 2004), pp. 213–214.
10. Clark, I. and Wheeler, N. J., *The British Origins of Nuclear Strategy, 1945–1955* (Oxford: Clarendon Press, 1989), p. 18; see also: Henry S. Rowen and Philip Bobbitt, who have both written about the 'extension of strategic bombing' and the 'orderly continuation, by more effective means, of the strategic bombing campaign'; Rowen, H. S. 'The Evolution of Strategic Nuclear Doctrine' in Martin, L. (ed.), *Strategic Thought in the Nuclear Age* (London: Heinemann, 1979), p. 137; Bobbitt, P., *Democracy and Deterrence: The History and Future of Nuclear Strategy* (London: Macmillan, 1988), p. 21; 'The emergence of SAC (Strategic Air Command) was rooted in Air Force Experience. The air planners were all veterans of the bombing campaigns against Germany and Japan … and believed that the Air Force must serve as the nation's new first line of defense'; Rosenberg, D. A. 'The Origins of Overkill: Nuclear Weapons and American Strategy, 1945–1960' in Miller, S. E. (ed.), *Strategy and Nuclear Deterrence* (Princeton: Princeton University

Press, 1984), p. 130; see also: Morgan, P. M., *Deterrence Now* (Cambridge: Cambridge University Press, 2003), p. 7.

11. Baylis, J. and Stoddart, K., *The British Nuclear Experience: The Roles of Beliefs, Culture and Identity* (Oxford: Oxford University Press, 2014), p. 1; Baylis, J. and Stoddart, K., 'The British Nuclear Experience: The Role of Ideas and Beliefs', in *Diplomacy and Statecraft*, 23:2 (2012), p. 331 and pp. 343–344; 'Atomic weapons were believed to be vital for Britain to go on playing its traditional role of protecting universal values of international peace and freedom. This is what Britain did'; Baylis and Stoddart, *The British Nuclear Experience*, p. 33.
12. Baylis and Stoddart, *The British Nuclear Experience*, p. 4.
13. Katzenstein, P. J. 'Introduction: Alternative Perspectives on National Security', in Katzenstein (ed.), *The Culture of National Security: Norms and Identity in World Politics* (New York: Colombia University Press, 1996), p. 2; Allison, G. T., *Essence of Decision: Explaining the Cuban Missile Crisis* (New York: HarperCollins, 1971), p. 67.
14. Ceadel, M., *Thinking about Peace and War* (Oxford: Oxford University Press, 1987), p. 72; similarly, Wolfram Kaiser writes that an 'excessive prestige orientation' afflicted British political elites following the Second World War, and that this was particularly noticeable in the Conservative governments of 1955–1964 where 'background influences … were strengthened considerably by Britain's relative decline and its perception by the political elite' which 'was still largely a socially cohesive group with a similar educational background, and … an inherently conservative mental framework for policy-making'; Kaiser, W., 'Against Napoleon and Hitler: Background Influences on British Diplomacy' in Kaiser, W. and Staerck, G. (eds.), *British Foreign Policy, 1955–1964: Contracting Options* (Basingstoke: Macmillan, 2000), p. 117 and pp. 127–128; Michael Blackwell has considered the post-war Labour government, writing that the 'leaders of the Labour Party … and the Foreign Office mandarins … shared the same world view'. Whilst their educational and social differences were sometimes stark, they were ultimately taught by the same 'Whig teachers' to revere the British Empire. Thus Blackwell explains the 'broad consensus on foreign policy issues that Labour and Conservative governments have traditionally demonstrated';

Blackwell, M., *Clinging to Grandeur: British Attitudes and Foreign Policy in the Aftermath of the Second World War* (Westport: Greenwood Press, 1993), p. 163.

15. Maguire, R. '"Never a Credible Weapon": Nuclear Cultures in British Government during the Era of the H-Bomb' in *The British Journal for the History of Science*, Vol. 45, No. 4 (December, 2012), p. 521.
16. Simpson, J., *The Independent Nuclear State: The United States, Britain and the Military Atom* (London: Macmillan, 1983), pp. 232–234; see also: Clark and Wheeler, *The British Origins of Nuclear Strategy*; Gowing, *Independence and Deterrence*; and, for an American perspective, Schilling, W. R. 'The Politics of National Defense: Fiscal 1950' in Hammond, P. Y., Schilling, W. R., and Snyder, G. H., *Strategy, Politics, and Defense Budgets* (New York: Columbia University Press, 1962); this could even be due to the particular working methods of an organisation, as Julian Lewis has written. He praises the success of the Joint Staff system in being able to provide 'straight answers to straight questions' reasonably quickly because of the 'standard format of its procedures'. This compares favourably with the Foreign Office at the end of the Second World War where, lacking in such structures, policies emerged 'haphazardly according to which individual bestirred himself on a given question at a given moment'. He quotes Kim Philby as writing 'It was facile then [1940], as it is now, to speak of a Foreign Office view. There are a lot of people in the Foreign Office and quite a few views'; Lewis, J., *Changing Direction: British Military Planning for Post-war Strategic Defence, 1942–1947* (London: The Sherwood Press, 1988), p. 338.
17. Horne, A., *Macmillan, 1894–1956: Volume I of the Official Biography* (London: Macmillan, 1988), pp. 73–74; see also: Fisher, N., *Harold Macmillan* (London: Weidenfeld and Nicolson, 1982), p. 25, 366, and 369; Sampson, A., *Macmillan: A Study in Ambiguity* (London: The Penguin Press, 1967), p. 22; D. R. Thorpe: 'His searing experience was the Depression in pre-war Stockton, and this, together with his affinity with Keynesian ideas, hung heavily over the way he thought about financial policy'; Thorpe, D. R., *Supermac: The Life of Harold Macmillan* (London: Chatto & Windus, 2010), pp. 616–617. This approach to understanding the economic policies of Macmillan as Prime Minister has

also led some historians to suggest his memories of interwar poverty 'governed his thinking for longer than was appropriate', preventing him from addressing the signs of economic decline that became apparent during his period as Prime Minister; Fisher, *Harold Macmillan*, p. 154; see also: Charmley, J., *A History of Conservative Politics, 1900–1996* (London: Macmillan, 1996), p. 156. For his part, Macmillan had repeatedly made statements such as 'I shall never forget those despairing faces … They wanted work. The British economy was indeed sick, almost mortally sick'; Macmillan, H., *Winds of Change: 1914–1939* (London: Macmillan, 1966), p. 285.

18. Suri, J., *Henry Kissinger and the American Century* (Cambridge, MA: Harvard University Press, 2007), pp. 8–14 and p. 247; see also: Starr, H., *Henry Kissinger: Perceptions of International Politics* (Lexington: University Press of Kentucky, 1984); David Jablonsky has made a similar attempt at understanding Churchill as a war leader. To Jablonsky, Churchill was to become the 'quintessential example of a leader in total war', having 'inherited the basic tension of that era (Victorian) between emotional, often irrational romanticism and earnest, rational pragmatism. To this were added general Victorian beliefs in such shibboleths as the British Empire and the Whig version of history … Compounding all that were the personality traits formed by a boy raised in patrician elegance, but cruelly neglected by his parents'; Jablonsky, D., *Churchill, the Great Game and Total War* (London: Frank Cass, 1991), p. 185.
19. Suri, *Henry Kissinger and the American Century*, p. 248.
20. Keys, B. 'Bernath Lecture–Henry Kissinger: The Emotional Statesman' in *Diplomatic History*, Vol. 35, No. 4 (September, 2011), p. 589 and p. 602.
21. Ibid., p. 603.
22. Leites, N., *A Study of Bolshevism* (Glencoe: The Free Press, 1953), pp. 15–16.
23. Holsti, O., 'The Belief System and National Images: A Case Study' in *The Journal of Conflict Resolution*, Vol. 6, No. 3 (September, 1962), pp. 244–252.
24. 'Contrary information (a general decrease in Soviet hostility, specific non-hostile acts) were reinterpreted in a manner which did not do violence to the original image. In the case of the Soviet manpower cuts, these were attributed to necessity (particularly

economic weakness), and bad faith (the assumption that the released men would be put to work on more lethal weapons). In the case of the Austrian State Treaty, he explained the Soviet agreement in terms of frustration (the failure of its policy in Europe), and weakness (the system was on the point of collapse)'; *Ibid*., p. 249.

25. Holsti, O. 'The "Operational Code" Approach to the Study of Political Leaders: John Foster Dulles' Philosophical and Instrumental Beliefs' in *Canadian Journal of Political Science*, Vol. III, No. I (March, 1970), p. 139.
26. George, A. L. 'The Casual Nexus Between Cognitive Beliefs and Decision-Making Behavior: The "Operational Code" Belief System' in Falkowski, L. S. (ed.), *Psychological Models in International Politics* (Boulder: Westview Press, 1979), pp. 103–104.
27. Other fruitful scenarios were those involving 'Decisions made at the pinnacle of government', 'Circumstances of information overload', Unanticipated events', and 'Circumstances in which complex cognitive tasks … may be impaired'; Holsti, O. 'Foreign Policy Formation Viewed Cognitively' in Axelrod, A. (ed.), *Structure of Decision: The Cognitive Maps of Political Elites* (Princeton: Princeton University Press, 1976), pp. 30–31.
28. Holsti, O., 'The "Operational Code" as an Approach to the Analysis of Belief Systems' in *Final Report to the National Science Foundation* (Durham: Duke University Press, 1977), pp. 16–18.
29. Verba, S. 'Assumptions of Rationality and Non-Rationality in Models of the International System' in *World Politics*, 14 (1961), pp. 102–103.
30. Richard Way, who served as Deputy Secretary at the Ministry of Defence, said it was surprising how long it was before Britain really embarked on any proper defence planning, claiming 'Every year we had an absolute crisis' trying to reorganise existing plans to fit immediate financial constraints. Richard Powell, who had been the Permanent Secretary at the Ministry of Defence during Sandys' period in charge agreed, adding that after the 1952 Global Strategy Paper there were only really annual revisions designed to contain things. Sandys was the first person who 'sat down and tried to think out what the future was'; the recordings of the conference held at the Liddell Hart Centre for Military Archives, King's

College London on 1 July 1988 (reproduced with the permission of the Trustees of the Liddell Hart Centre for Military Archives); NHP/SR1; see also the 'fundamental lack of agreement amongst political and military leaders … had important implications for British foreign and defence policies'. Baylis, J., *Ambiguity and Deterrence: British Nuclear Strategy, 1945–1964* (Oxford: Clarendon Press, 1995), p. 360.

31. George, 'The Casual Nexus', p. 104.
32. *Ibid*., p. 105.
33. Tudor, H., *Political Myth* (London: Pall Mall Press, 1972), p. 17.
34. Fussell, P., *The Great War and Modern Memory* (London and New York: Oxford University Press, 1975), p. 310.
35. Todman, D., *The Great War: Memory and Myth* (London: Hambledon Comtinuum, 2005), p. 223; Jean Peneff has described the 'mythical element in life stories' as being the result of a 'mental construct which, starting from the memory of individual facts which would otherwise appear incoherent and arbitrary, goes on to arrange and interpret them and so turn them into biographical events'. It is claimed that such myth-making is 'common in all societies', but is 'especially widespread in societies undergoing rapid development and change'; Peneff, J., 'Myths in Life Stories' in Samuel, R. and Thompson, P. (eds.), *The Myths We Live By* (London: Routledge, 1990), p. 36; Richard Carr offers a relevant example of this in writing that young Conservative politicians who had served in the First World War sought political benefits from 'constantly speaking of a generation wiped out, and selling themselves to a grieving public as the living embodiment of lost sons, brothers and fathers come election time', which had the effect of propagating the stubborn image that their war had been a disaster; Carr, R., *Veteran MPs and Conservative Politics in the Aftermath of the Great War: The Memory of All That* (Farnham: Ashgate, 2013), pp. 7–8; Martin Francis has described how Ian Smith in Rhodesia, with support in London from Douglas Bader, used 'the myth of the wartime flyer' to 'reassert racial hierarchies in both the disintegrating empire and the metropole itself' through 'a process of selective denial and extensive refashioning, not least the expunging of non-whites from the dominant memory of the RAF at war'; Francis, M., 'Men of the Royal Air Force, the Cultural Memory of the Second World War and the Twilight of the British Empire' in

Grayzel, S. R. and Levine, P. (eds), *Gender, Labour, War and Empire: Essays on Modern Britain* (London: Macmillan, 2009), p. 192; see also: Simon Ball's claim that the different generations of policy-makers in Macmillan's government, which he divides between those who had missed out on the First World War, but had grown up in its aftermath, and those who had entered politics in the 1930s. These tensions 'had some impact on policy-making', but more importantly 'shaped how men understood what had happened'. Macmillan, who was 'above' these tensions as the only member of his government to have fought in the First World War 'created the view that the post-war generation … had worked in an honourable and statesmanlike fashion', whereas the younger men 'had acted like selfish prima donnas'; Ball, S. 'The Wind of Change as Generational Drama' in Butler, L. J. and Stockwell, S. (eds.), *The Winds of Change: Harold Macmillan and British Decolonisation* (Basingstoke: Palgrave Macmillan, 2013), pp. 96–112.

CHAPTER 2

The Intellectual Foundations of Sandys' Belief System

In August 1952 Sandys took it upon himself to question the official government belief that the recent spate of UFO sightings were merely a 'product of mass psychology'. He accepted that there was no evidence of 'flying saucer aircraft' as such, but felt that there was, nonetheless, 'ample evidence of some unfamiliar and unexplained phenomenon'. The situation seemed familiar to Sandys, who had spent a large part of the Second World War tracking the development of equally unfamiliar phenomena that turned out to be unmanned German weapons, and then having to coordinate the defensive efforts against them. He felt the evidence of there being something concerning was 'quite as convincing as the half dozen vague and wholly inaccurate reports of the V.2 which was all that we had to go on in the Spring of 1943'. Furthermore, he recalled that in 1943 the response had been 'all our leading scientists declared [such things] to be technically impossible'. His recollection of what 'all our leading scientists' had thought in 1943 was slightly inaccurate but, as the Minister of Supply, Sandys was responsible for equipping the Armed Forces with the latest weapons, and he was inclined to 'have no doubt at all' that a British pilot in Germany had witnessed a 'phenomenon similar to that described by numerous observers in the United States' rather than settle for an official verdict that might have placed Britain at a material disadvantage.[1]

This curious example was part of a wider trend whereby Sandys fell back on his Second World War experiences when forming his policy preferences, particularly when attempting to navigate a way through situations where adhering to a more established, routine way of thinking was deemed

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unsuitable, and in which individual policy preferences were allowed to thrive for various reasons. By exploring Sandys' experiences in the Second World War, as well as analysing his later attempts at constructing them into a usable belief system, this chapter will show how Sandys came to retrospectively assign a greater importance to both the unmanned weapons threat, and to his campaign of counter-measures. In coming to see the threat posed by the V-1 and V-2 as far greater than it had actually proven to have been, Sandys established for himself the basis of a coherent and sincerely-held belief system that came to see the descendants of these novel retaliatory weapons as the only credible basis for British nuclear policy-making.

Duncan Sandys at War

On 11 April 1943 a report was circulated amongst the Chiefs of Staff claiming that the Germans had started to focus on developing a long-range rocket.[2] This surprised the British government, which thought that the Germans were more interested in pilotless aircraft, and within days Churchill received a follow-up minute recommending the implementation of an 'investigation directed by one man who could call on such Scientific and Intelligence Advisors as may be appropriate'. It was also recommended that the same man should take responsibility for any counter-measures that he might deem worthwhile, and the Chiefs of Staff urged Churchill to act without delay, suggesting that Sandys 'would be very suitable if he could be made available'.[3]

In April 1943 Sandys was the Member of Parliament for Norwood and Parliamentary Secretary to the Ministry of Supply, and, whilst many thought his status reflected only his connections to Churchill, this was a role for which he was particularly well-suited.[4] The Chiefs of Staff were well aware that before the war he had been a strong critic of the national air defences, and that since September 1939 he had been intimately involved with those same defences, taking a conventional anti-aircraft regiment to fight in Norway after an expedition to engage Soviet Union forces in Finland was cancelled at the last minute, before overseeing the development of the experimental anti-aircraft rockets (the so-called 'Z Batteries').[5] Equally as important in terms of 'call[ing] on such Scientific and Intelligence Advisors as may be appropriate', by mid-1943 Sandys had started to form his reputation as the sort of person who, whilst prone to antagonising his superiors, could work effectively between the intelligence services, government scientists, and the Armed Forces.

Sandys was declared unfit for further military service after breaking both of his feet and legs in a March 1941 car accident, and Churchill made him Financial Secretary to the War Office in July. The position did not actually come with any financial responsibilities, but it effectively made him a roving administrator and advisor, involved in a 'mixed bag' of areas from weapons development to exchanging wounded prisoners, and it was not long before he made his 'anxieties' about the state of the Army known.[6] With 'complete frankness', he circulated a memorandum accusing the Army of having 'not been very successful' owing to its poor use of otherwise decent equipment; a lack of the 'tenacity which we have learnt to expect from the Germans, Japanese and Russians'; and a system of promotion that failed to reward the most capable.[7] Sandys recalled that this was 'pretty rough stuff, especially coming from a 33-year-old new boy; and it naturally did not endear me to the top brass of the Army Council'.[8] Nevertheless, he continued to upset people with his forays into tank design, recalling generals 'sniggering at my ignorance' having asked them to define the role of a tank (they were apparently unable to provide him with a satisfactory answer), and daring to inform Alan Brooke, the Chief of the Imperial General Staff, that 'other experienced generals thought quite differently' from his cautious approach to tank warfare.[9]

Sandys' memoir casts his time at the War Office as being somewhat formative, contrasting his exposure to that 'most fascinating of men', Max Aitken (Lord Beaverbrook), who Sandys came across as the Minister of Supply, and P. J. Grigg, who worked alongside Sandys as Under-Secretary of State for War before taking charge of the entire department. The former had a 'clear-cut point of view' on 'almost every subject', and Sandys credited his 'electrifying efforts' in his previous role as Minister of Aircraft Production as having been decisive in providing Britain with the aircraft needed to win the Battle of Britain.[10] This was not the case with Grigg. By early 1942 Churchill had decided that the War Office required new leadership, and Sandys claimed to have secured the position for Grigg by speaking highly of his 'courage and clear-thinking'.[11] The description Sandys offers as to what then unfolded is interesting in relation to his own career:

> [N]ow that he (Grigg) was in a position of authority, I assumed he would take steps to bring about the changes, which he and I had agreed were urgently needed. I expected to find him eager to use his new-found power to reshape the structure and policies of the army … But, to my amazement and profound disappointment, he said that 'we must not rush things and must be careful not to upset the generals.'[12]

When Sandys had been formulating his criticisms of the Army, Grigg had been his closest ally.[13] Now he had 'been completely transformed' having 'realised that there is a world of difference between advising your superiors to take bold action and taking the decision yourself'.[14] Sandys could be accused of retrospectively projecting his own experiences onto Grigg here, but their relationship clearly deteriorated. Sandys claimed to have repeatedly urged him to revert to his former mindset, only for his insistence to have made Grigg 'abusive', forcing Sandys to enlist the new Under-Secretary in an attempt to force reforms through.[15] Sandys memoirs do not discuss matters beyond admitting that their relationship became 'strained', but Brooke provides an account of the tension in his diary, accusing 'that objectionable specimen Duncan Sandys' of wanting to replace Grigg as the Secretary of State for War; something Brooke later claimed would have left him with 'no alternative but to resign'.[16]

This tension with Grigg peaked when Sandys approached him about making cuts to the Middle East Command, when Grigg, having grown tired of being told what he used to think, told Sandys to 'bloody well do it yourself'. He chose to interpret this as a formal instruction and promptly flew to Cairo to discuss the matter with Harold Alexander, the Commander-in-Chief of Middle East Command. Alexander assured Sandys of his full support and, following a brief but wide-ranging tour of the area, Sandys and Alexander agreed to reduce the Middle East Command by 30,000 men. By way of thanks Churchill telegrammed Sandys informing him that his 'high-handed behaviour' had so enraged Grigg that it would be impossible for him to return to the War Office, forcing a transfer to the Ministry of Supply.[17] In this new role Sandys was given responsibility for research and development, and so he finally found himself 'in a position to play a positive part in shaping policy', whilst having the same old arguments with the War Office about tank design.[18]

Unfortunately, the sections of Sandys' memoirs detailing his campaign against the V-1 and V-2 were left blank, but it is clear that his appointment was a serious one, worthy of the threat that the British government felt these developments posed.[19] Plans for large-scale evacuations of the South East, as well as the transfer of government departments from London to relative safety, were quickly devised; but it was on questions of active defence against these new weapons that robust debate began to emerge, and where Sandys proved to be most effective. By 17 May he had compiled a report for the Chiefs of Staff that, although unable to offer a 'firm and final opinion' on exactly what the Germans were working on due

to the lack of 'wholly reliable and conclusive' intelligence, offered some 'provisional answers' based on what limited information was available. He suggested that the Germans were in the process of developing a 'heavy rocket capable of bombarding an area with H.E. [high explosive] or gas from very long range', and that, whilst this 'startling advance' on existing technology would prove 'extremely difficult' for the Germans to master, it was still 'technically quite possible'. He also said that the economics of the project would not prove prohibitive in comparison to dropping an equal amount of explosives from aircraft, although this early belief was based on expecting a seventy-ton rocket carrying ten tons of explosives.[20] The V-2s that eventually landed in Britain carried less than ten per cent of the explosives predicted at this early stage, and weighed a fraction of what was expected; but Sandys was quite accurate in his predictions for the likely speed and altitude that they would reach, from which he concluded that such a weapon 'could not be intercepted or diverted once it had been launched'. He therefore argued that the most effective form of defence was to be found in disrupting the supply chain by bombing experimental establishments and any factories connected to their manufacture.[21]

The Chiefs of Staff were suitably impressed by this preliminary report, and Sandys was soon circulating more detailed reports as better intelligence emerged.[22] His 28 June report was able to take advantage of a flood of new information from agents on the continent, which was combined with data from aerial reconnaissance that Sandys had personally commissioned, and he was able to conclude from this improved supply of information that the long-range rocket had 'undoubtedly reached an advanced stage of development'. The Germans were still thought to be having trouble with developing an accurate targeting system, but since Adolf Hitler had supposedly wanted the weapons to be operational as soon as possible in order to retaliate against Britain for bombing German heavy industries in the Ruhr valley, Sandys suggested that they could be forced into service before these issues were completely solved. New photographic intelligence also led him to revisit his technical predictions, writing that these weapons would probably carry anywhere between two and eight tons of explosives. Most importantly, he remained adamant that there was still no direct means of defence against them.[23]

The government had recently completed a study (based on the idea that each rocket would have ten tons of explosive power) that predicted 4200 casualties and 600 dead following each rocket attack on London. If this happened every hour of every day for a month, the report predicted

that the 'virtual destruction of the metropolis' would ensue. Sandys did not completely endorse these figures, but conceded that even half that amount of damage would prove difficult for the capital to absorb. He made another appeal, therefore, to attack the weapons at their sources as 'Undoubtedly the most effective way to prevent the use of this weapon', and proposed to the Air Ministry that they launch a heavy bombing raid against the Peenemünde Army Research Centre with the object of 'utterly destroying' the buildings and of 'killing as many as possible of the scientists and technicians in the living quarters nearby'.[24] He repeated this recommendation to the Defence Committee on 29 June, informing them that the Air Staff had said it would not be possible to launch a 'really heavy' night attack until August.[25] It was here that the so-called 'Scientific Controversy' first emerged.

Opposing Sandys on the rocket issue was Frederick Lindemann (better known as Lord Cherwell). Cherwell, who enjoyed a certain authority as Churchill's scientific advisor, believed that the 'rocket story was a well-designed cover plan', and that it was 'almost incredible that the Germans should have got, without an intermediate step, to something which we could certainly not develop [in] under five years'. He also doubted the prisoner of war reports describing new propellants; claimed that a single-stage rocket could not travel more than forty miles; and dismissed the whole thing as an 'elaborate cover plan to conceal some other development', claiming that stories about rockets 'had been going the rounds for years', making a fake rocket programme the ideal basis for a hoax.[26] Sandys had anticipated Cherwell's line of objection by making a point of ruling out a hoax as 'far-fetched', owing to the sheer number of people that would have had to have been primed with false information to make it believable. Additionally, whether or not a rocket was being manufactured there, Peenemünde was still known to be an important research establishment, so to 'invite the heaviest bombing' upon it by allowing dummy rocket casings to be photographed would have been 'illogical'. Churchill took the technical points Cherwell had made on board, but ultimately sided with Sandys. So too did R. V. Jones, the scientific intelligence expert from the Air Ministry, who not only thought that the evidence for the rocket programme existing was conclusive, but that the Germans were not capable of such a deception.[27] It was decided that a heavy attack should be mounted against Peenemünde, but Charles Portal, the Chief of the Air Staff urged patience. He preferred to wait for the Germans to finish their building work, by which point he would be able to gather sufficient

strength to completely destroy the facility and kill as many scientists as possible. Churchill and the other Chiefs of Staff agreed, and a 'heavy scale air attack' was approved for 'as soon as conditions permit'.[28]

Those present also received a message from the British Embassy in Switzerland informing them that Germany had promised its citizens a 'devastating and decisive air attack' against Britain in August that would be both 'novel in method and irresistible in intensity'. This seems to have influenced Sandys' mood, as his next report spoke of an 'impending rocket attack upon London'.[29] He argued that the rockets would still be 'erratic' at this stage and, therefore, were unlikely to be used 'until next year at least'; but he maintained that the 'only immediate counter-measure' was to bomb Peenemünde.[30] In August, Sandys acquired a 'new and reliable source' that said rockets were being 'manufactured in quantity' at a number of facilities, and further evidence emerged relating to the movement of suspicious tubes that Sandys believed could only be connected 'with the latest German secret weapon'.[31]

The raid on Peenemünde, the only precision night attack attempted by Bomber Command in the latter half of the war, took place on 17/18 August 1943.[32] Before the raid, Sandys had estimated that Peenemünde was capable of manufacturing at least one rocket a day. There were still several facilities of interest, including a suspicious-looking bunker in Watten that Sandys thought worthy of an equally heavy bombing raid, but the attack had at least appeared to have put their main facility out of action.[33] In his post-Peenemünde report, Sandys suggested that it might be a good idea to spread rumours in neutral countries that the 'secret weapon upon which Hitler placed so much reliance' had been destroyed, with the intention of provoking the Germans into making a reply that would furnish him with more information.[34] The Chiefs of Staff advised against letting the enemy know just how much they knew, but they were happy enough with the raid, which Portal reckoned had set the programme back six months.[35] Cherwell remained sceptical about what had been accomplished, continuing to doubt that the Germans even had a rocket programme.

Reports of a different weapon were now beginning to emerge, and Portal told the Chiefs of Staff that a pilotless aircraft had been seen to make a crash landing on 22 August near Peenemünde, making this the immediate priority. Cherwell did not doubt the existence of this pilotless aircraft, but said that such a weapon would be an inefficient means of bombing Britain. In contrast, Jones believed that the Germans had the capability

to attack Britain with pilotless aircraft, and Sandys confirmed that he was already investigating them, although he did not consider them to be as threatening as long-range rockets. If they were more like manned aircraft, he argued, they 'would present few difficulties', and if they were more rocket-like then they were not really a new problem.[36] Therefore, he suggested that his attentions would be better utilised solely on countering the German rocket programme, and that aircraft of any sort were an Air Ministry concern.[37] In September he arranged an informal separation of his committee into two bodies to investigate the pilotless aircraft and the long-range rocket separately, but by October the arrangement was proving difficult to manage. In November this confusion was solved when the Air Staff assumed control over everything, but Sandys maintained his place at the table when the issues were discussed in the War Cabinet so that the 'wide contacts which had been established by Mr. Duncan Sandys in various Government Departments should be maintained'.[38]

In less than a year the small sub-committee first tasked with investigating German unmanned weapons developments had become a vital part of the Air Ministry, boasting ties to the Joint Intelligence Committee and the Ministry of Home Security. However, Sandys was still finding it difficult to successfully counter what the Germans could produce. Even attacking research facilities was an inefficient use of resources, and he admitted to the War Cabinet in August 1944 that 'on the whole, the results achieved by these attacks had not been commensurate with the air effort involved'. On the other hand, he claimed that 'attacks on the supply system had gained appreciable results in interfering with and restricting the enemy's scale of attack'.[39] The potential threat of the weapons, combined with the difficulties of defending against them, created a climate where German weapon developments were perceived as so dangerous that they could only be overcome by removing them from the equation completely, and doing so at all costs. To this end, the Chiefs of Staff were requested on 20 January 1944 to prepare a report as to whether gas attacks might be utilised against launching sites 'in the event of the attacks on this country based on those sites becoming too damaging'. This was accompanied by the absolutist statement from Churchill: 'Moral and political considerations should not be taken into account in preparing this report.'[40]

Throughout the existence of the various Sandys committees directly charged with defending Britain from unmanned German weapons, which eventually became known as Operation Crossbow, there remained no definitive solution to the problems encountered. When the V-1 weapons

began to strike Britain in June 1944, Sandys remained fixated on attacking supply sites. He was supported in this view by the Air Staff, who were always happy to bring their bombing strength to bear to further demonstrate its worth.[41] In truth, whilst local defensive efforts managed to down significant numbers of V-1s, it was the advance of the Allied armies through Nazi-occupied Europe that put a stop to the flying bomb attacks.[42] With the Allies beginning to establish a foothold on the continent and local defences improving, Sandys was able to report to the War Cabinet that

> With regard to our defences the present position was that on an average we were able to destroy 41% of the bombs launched and it might be that, as improvements were made in the equipment of our aircraft and guns and as the skill of the pilots and gunners increased, we should be able to bring up the average to 50% in the next few weeks.
>
> Taking everything into account he thought that we might reduce the weight of explosives dropped in London from 50 tons to 30 tons a day; but we ought to be prepared to face attacking on this scale for several months.[43]

The last V-1 flying bomb was launched on 5 September, by which point the retreating Germans were forced to launch them from specially-adapted Heinkel 111s, and British defences had destroyed 3463 missiles out of 6725 observed and about 9000 launched.[44] Defences against flying bomb attacks had improved rapidly, and on 7 September Sandys crowed in a press conference that 'Except possibly for a few last shots, the Battle of London is over.'[45] His timing could not have been worse. The following day, after he had repeated his claims in an article for the *Daily Express*, the V-2 campaign against London began.[46] This relatively harmless initial bombardment consisted of a rocket landing in Chiswick that killed three people, and a casualty-free explosion near Epping; but the potential of the V-2 was immediately obvious to Sandys. It had no fixed launch site to destroy or capture, it was ten times as fast as most fighter planes, and its development potential was deemed to be unlimited.

Sandys had been vindicated, although Cherwell had been correct about the size of the rockets eventually launched.[47] Despite being correct about there being no hundred-ton rockets in existence, as well as identifying other issues the Germans were to face, Cherwell has gone down in history as the man who was proven wrong about the V-2, famously saying in October 1943, that 'at the end of the war, when we know the full story,

we shall find that the rocket was a mare's nest'.[48] There is evidence to suggest that Cherwell allowed his views on the matter to be influenced by 'disdain' for Sandys, which was evident in the private minutes Cherwell addressed to Churchill, and that he held Sandys' comparatively limited scientific knowledge in contempt.[49] Jones never appears to have had a personal dislike of Sandys, although their working relationship was occasionally difficult. He simply failed to understand why, in recommending Sandys, the Chiefs of Staff had overlooked his fellow scientists 'to do a job that we already had in hand, and for which our qualifications were much better'.[50]

The V-2 would actually prove remarkably ineffective relative to its huge costs, but it was still a concern.[51] Churchill informed Parliament of this latest threat on 10 November 1944, and by 23 November Sandys had issued a report to the War Cabinet and the Chiefs of Staff that could only lament the lack of 'effective counter-measures' against a weapon that 'attains a velocity of about 3500 m.p.h. and rises over 60 miles into the stratosphere', making them impossible to shoot down.[52] These qualities instantly impressed Sandys, and the critical paragraphs for understanding the positions he would later take in government were based upon his understanding of them. In a memorandum with the heading 'British Rocket Development', he argued that the German weapons had to be understood as 'only for fore-runners of other long-distance bombardment weapons', and worried that the effectiveness of these future weapons 'could be appreciably increased'.

> 36. The advent of the long-range, radio-controlled, jet-propelled projectile has opened up vast new possibilities in the conduct of military operations. In future the possession of superiority in long-distance rocket artillery may well count for nearly as much as superiority in naval or air power.
>
> 37. The Americans have already embarked upon an ambitious programme of development and there are signs that the Russians are also impressed with the potentialities of this new technique. If Great Britain is not to risk falling behind other nations in this vital sphere, high grade scientific and engineering staff together with extensive research facilities will have to be provided and maintained as a permanent part of our peace-time military organisation.[53]

In his role as Joint Parliamentary Secretary to the Ministry of Supply, Sandys was partly responsible for the deployment of scientific manpower,

making him fully aware of Britain's involvement in the construction of nuclear weapons as part of the United States-led Manhattan Project.[54] He could not mention this when writing this kind of report, but Sandys' predictions must have been made with the looming possibilities of these new weapons in mind. Not that that serves to diminish the importance of the fact that he realised the progress of unmanned weaponry was inexorable. This was an unusual positon to have taken so early in the period, and, whilst Sandys was not the only person to quickly recognise the potential of unmanned weaponry, we shall see in the subsequent chapters how he was the first leading policy-maker to promote the idea of placing it at the centre of British defence planning. It was therefore a straightforward conclusion for him to make that, on top of being able to reduce capital and human costs through developing decisive armaments, the possession of offensive unmanned weaponry was a potential short-cut to superpower status, just as 'superiority in naval or air power' had been in previous years.

In addition to this, there was another angle in this discussion. Sandys came to the view that possessing the dominant weapon of the future had a clear political dimension in terms of credibility. The Political Warfare Executive had addressed the psychological nature of the weapons in a January 1944 report which foreshadowed the value Sandys later attached to the independent nuclear deterrent. The key passage of the report reads:

> Furthermore, the long-term effect of building up a threat [to retaliate] which we have no intention of fulfilling would be harmful to us. Our failure to retaliate would be attributed by the Germans to our impotence and to German power, and might increase the morale-raising effect of the use of 'CROSSBOW'.[55]

Two weeks later this was accompanied by suggestions of domestic political value when a report from the Air Staff claimed that the weapons were providing effective propaganda for the Germans, who boasted to their people that they were preventing the Allies from attempting their long-awaited invasion of Western Europe, just as the nuclear deterrent, whether through an independent British variety, or under the protection of the United States nuclear umbrella, would come to base its existence on the argument that the threat would stop the superior conventional forces of the Soviet Union from sweeping through the same area during the Cold War.[56] This would later be reflected on by Sandys during the years in which British claims to superpower status came to be based upon increasingly

unstable foundations. The years during which Sandys occupied important roles in the defence policy-making process, 1951–4 and 1957–60, were critical for Britain in this respect. Whether it was through the frustrated defence reviews of the early 1950s aimed at putting British defence policy on a more viable financial footing, or through his own attempts to radically overhaul defence policy following the Suez Crisis, Sandys increasingly came to identify the possession of unmanned nuclear weaponry as critical to Britain remaining a serious contributor to the defence of the West. His predilection for seeing the independent nuclear deterrent as both a genuine alternative to so-called conventional armaments as a foundation for British defence, as well as a political symbol to justify his strategic realignment, clearly drew upon these influences.[57]

In the decades after the war, the independent nuclear deterrent, whilst the result of gradual developments in doctrine, became the main political issue in defence because of Britain's weakness. Britain's conventional forces could theoretically be destroyed; but as long as Britain retained its place as a nuclear weapons state, it remained a nation of major importance and one to which both the Soviet Union and the United States had to give proper consideration (and respect). That the weapons became the main sustaining hope of the Germans would later justify Sandys' admission that Britain could not hope to defend itself against nuclear attack, presenting Britain's own nuclear force as the only response. This was the case in Germany, where the conclusive *United States Strategic Bombing Survey* ascertained that use of rockets 'found a passionate echo and have strengthened the population in its belief that the use of the retaliatory weapon is an answer to the technical superiority of our enemies'.[58]

Sandys' Version of History

Whilst he never left a definitive personal account of his campaign against the V-1s and V-2s, Sandys' version of events can still be pieced together from different sources, providing an insight into how he came to interpret his experiences of the Second World War. The first of these was his most significant contribution to Churchill's six-volume memoir-cum-history of the conflict, the fifth volume of which contains a chapter entitled 'Hitler's "Secret Weapon"'. The initial draft of this was produced entirely by Sandys in December 1950, and, according to a study of the text 'mirrored his own wartime contribution' by highlighting the threat of unmanned weaponry and emphasising the results of the attack on Peenemünde.[59] Churchill's

loose managerial style allowed Sandys considerable scope to impose his own idealised interpretation of events, and these essays give a valuable insight into how he came to view his actions during the conflict, as well as what he perceived their consequences to have been.[60] This in turn allows for a better understanding of the intellectual basis of Sandys' policy preferences, rooted as they were in his, sometimes exaggerated, version of events.

Sandys' focus on Peenemunde (and his role in the story) became a contentious issue when Churchill passed the draft to Cherwell and Jones. The precise results of the raid on Peenemünde remain a matter of dispute seventy years later, but Walter Dornberger, who oversaw Germany's unmanned weapons programmes, later wrote that the raid had barely delayed progress by two months.[61] In his essays, Sandys showed no such uncertainty. His first draft suggested that the Peenemünde raid 'may well have played a decisive part in the general progress of the war', citing a passage in Dwight D. Eisenhower's memoirs in support.[62] Both Cherwell and Jones objected to this portrayal. Jones offered some amendments to the text, but Sandys rejected them on the grounds that they merely covered old ground and offered nothing new.[63] The version eventually published was a compromise shorn of Eisenhower's words that described the raid as having played 'an important and definite part in the general progress of the war'.[64]

The project became sidelined as Churchill and the Conservative Party returned to government the following year, and Sandys was made Minister of Supply. Churchill had given Sandys this brief having identified him as the man to force through the de-nationalisation of the steel industry, although another responsibility of the Ministry of Supply was to oversee the provision of equipment for the Armed Forces.[65] It is therefore interesting to note that Sandys' involvement with the Churchill histories during this period allowed him to use his later contributions as an unofficial platform for the strategic ideas he was attempting to negotiate through the Ministry of Supply. These ideas will be properly analysed in chapter three, but, insofar as they relate to his literary exploits, it was his opposition to the Royal Navy taking on a nuclear strike role with the N.A. 39 (Blackburn Buccaneer) that is of particular interest to the formulation of his belief system.

Towards the end of 1952 Churchill was working on his sixth and final volume, and it was the section on 'The Pilotless Bombardment' that saw the old battles between Sandys, Jones, and Cherwell recommence when Sandys 'again tried to highlight his own contribution'.[66] In the original

draft Churchill had made extensive use of quotes from Albert Speer, who, having been the German Minister of Armaments and War Production, had intimate knowledge of the unmanned weapons programmes. Speer argued that they were wasteful (this was particularly true of the V-2, which was twenty times as expensive as the V-1), and that the Germans would have been much better off developing their manned aircraft. Churchill had originally included a Speer quotation arguing that the construction of more bombers and fighters would have been a better use of German resources, but when Sandys was asked for his thoughts on the draft chapter he returned an entirely different version with the passages based on Speer's words completely removed.[67] Churchill wrote back to him on 13 January 1953 questioning these omissions, asking rhetorically whether or not Speer was correct.[68] Sandys replied on 29 January, at which point he was deep into a review of defence policy, with a proposed compromise. Writing on official Ministry of Supply paper, he argued that the Speer quote contradicted itself and ruined the flow of the text.[69] When Cherwell received a copy of the compromise, he told Churchill that Sandys' alterations 'would not give a true picture', adding, 'Indeed I think it might be phrased in a much unkinder form were it not desired to let him down gently.'[70] In spite of this, Sandys' compromise was accepted, and it reads:

> Despite the great technical achievements, Speer, the highly competent German Minister of Munitions, deplored the effort that had been put into making rockets. He asserted that each one took as long to produce as six or seven fighters, which would have been far more useful, and that twenty flying bombs could have been made for the cost of one rocket.[71]

The references to German bomber production had been erased, and, by placing the emphasis on fighters, the section no longer promoted the bomber aircraft as a more cost-efficient delivery system, as Speer had said it was, and as the Navy were then attempting to do. The V-1 was given its due as a cost-effective alternative, but they were obsolete by 1953 and therefore not likely to be raised in policy discussions. The important thing for Sandys was that manned bomber aircraft were not held up as a possible alternative to long-range rockets as a means of delivering explosive payloads, capable of matching the increases in performance that were thought to have made them impossible to defend against. Given that the medium V-bombers, on which the British nuclear deterrent was expected to rest,

were all in advanced testing by this stage, there would have been no chance of the Ministry of Supply derailing those programmes. However, whilst Sandys' Ministry of Supply had confirmed the specifications for the desired naval nuclear-capable aircraft in August, it was not until February that companies began to respond with designs, so the programme had barely progressed by the time Sandys was able to mount a thorough attack against it. Therefore, short of a rapid change of heart prompted by his responsibilities, it would be fair to say he was always against the idea of naval strike aircraft capable of delivering nuclear weapons, and he would have had this in mind as he prepared his draft for Churchill.

The next historian to call upon Sandys was Basil Collier, author of the official history of the German bombing offensive against Britain, *The Defence of the United Kingdom*, who sought him out for information. Having received a preliminary draft of the text, Sandys replied with a detailed list of amendments. His feelings about the draft were made quite clear with the opening line of his 'General Comments', which read: 'There is an unmistakeable tendency throughout not only to belittle but to sneer at my own part in the story.' He claimed that the text contained 'not a single friendly word' about his role, choosing instead to 'minimise as much as possible the extent of my responsibility and the part I was called upon to play' in order to 'impress us with the superiority of Dr. Jones', who Sandys thought had been given sole credit for predicting that the Germans were developing a long-range rocket. Worse still was the coverage of the Peenemünde raid amounting to 'three short sentences', when 'The dislocation caused by the killing of 735 personnel of the [Weapons Research] Establishment should be stressed.'[72]

J. R. M. Butler, the general editor of the official histories, sent Sandys a list of the changes Collier had made from his suggestions in February 1956, but he was still far from happy.[73] He wrote back saying that 'this section of the book remains, so far as I am concerned, unfair and misleading'.[74] The copy of the amendments he received has hand-written notes in the margins that take issue with familiar themes. He felt the need to remind Butler and Collier of his vitally important role in relation to the actual implementation of countermeasures, writing that 'Intelligence officers do not take charge. They advise. They advised me', and asking, rhetorically, who had actually forced through the attack on Peenemünde. When an amended passage referred to 1943 as a period of uncertainty that had 'led to so much untimely speculation', Sandys scrawled in the margin 'and to the bombing of Peenemunde [*sic*]!'[75] The published

version, which would presumably have displeased Sandys, said of the raid on Peenemünde:

> From the standpoint of the present day, it is obvious that the attacks on Peenemünde and Watten were well timed and did good service to the Allied cause. We have seen, too, that soon afterwards any immediate prospect of rocket attacks on the United Kingdom was extinguished by the technical shortcomings of the weapon.[76]

Both Churchill and Collier had merely sought to classify the attack as one of many successful bombing raids carried out, but Sandys had come to see it as something more. This was not, however, a case of Sandys seeking political capital by retrospectively assigning himself a greater role in the defeat of Germany. Instead, it appears that Sandys had actually come to believe that his actions had really 'played a decisive part' in the defeat of Germany, and conclusive proof of this emerged in his later writings.

In 1964 when David Irving published *The Mare's Nest*, his history of Operation Crossbow, Sandys reviewed it for the *Evening Standard*.[77] Sandys had shared correspondence with Irving during the writing process, and, despite returning to his previous irritations with the official histories, as well as criticising Irving for emphasising the role of intelligence-gathering at the expense of his practical counter-measures, he praised it as an 'authoritative account of the V-weapon offensive'. In his description of the campaign he returned to the position he took writing for Churchill by appealing once again to the 'opinion of General Eisenhower', which was said to be that the raid on Peenemünde 'may well have altered the course of the war'. He then went further: 'In fact, he has expressed the view that if the German V-weapons had come into operation six months earlier the Allied invasion of Europe from England would have had to be "written off".'[78] This selective quoting distorted what had actually been written, as the full passage from Eisenhower's memoirs reads:

> It seemed likely that, if the German had succeeded in perfecting and using these new weapons six months earlier than he did, our invasion of Europe would have proved exceedingly difficult, perhaps impossible. I feel sure that if they had succeeded in using these weapons over a six-month period, and particularly if they had made the Portsmouth-Southampton area one of their principal targets, OVERLORD might have been written off.[79]

Irving had tended to lean more towards Sandys' interpretation in his book, writing that the raid delayed the unmanned weapons offensive 'just long enough to prevent it dislocating the combined Allied invasion of Normandy ten months later'; but where Eisenhower had speculated that the invasion 'might have been written off', Sandys had made the statement definitive.[80] His interpretation of Eisenhower's verdict did not correspond with any conceivable reality, but Sandys' belief that the raid on Peenemünde (and therefore his contribution to the war effort) was decisive remained unchanged for the remainder of his life. He may not have provided historians with an in-depth account of his Second World War experiences, but the outline of his memoir claimed that attacking Peenemünde delayed the unmanned weapons offensive by seven months, and repeated the idea that 'In his memoirs Eisenhower says that, but for this delay, landings in France in 1944 would have been impossible'.[81]

Conclusion

Except for a brief outline of the proposed contents, Sandys never got round to completing the sections of his memoirs that dealt with these events; but his archive contains a number of files containing copies of important documents relating to his war work that he would distribute to those seeking his version of the story. Historians who contacted him would receive a copy, as did the producers of the 1965 motion picture *Operation Crossbow*, in which Sandys was portrayed by Richard Johnson as a tireless man of action constantly having to battle against Trevor Howard's dismissive and superior Cherwell. In this folder, sitting alongside the reproduced committee minutes and reports, is a brief essay titled 'The Scientific Controversy'. This appears to be a stand-alone piece, as there is no mention of it in his memoir, and is the only first-hand account of his campaign against the unmanned weapons threat that Sandys completed. His memoir planned to mention 'Prof. Lindeman [*sic*], who would not believe in [the] existence of rockets', but this essay pitted 'all our rocket experts', who thought it was impossible and little more than a hoax, against those who had considered the 'inescapable evidence that the Germans had developed a rocket'.[82] There are no names mentioned in relation to this latter group, whose advice was said to have been dismissed for 'Not being rocket experts'; but given that it does not mention how Jones and others had also believed in the rocket, the use of the deliberately vague 'rocket experts', in contrast to those who happened to have made the same points as Sandys,

implies that it had very much been a case of Sandys against the supposed scientific elite. This would have been apparent to anybody reading the selection of documents offered to accompany the essay, which seemed to have been carefully chosen by Sandys to reinforce this particular narrative. The piece gives the 'experts' their due in doubting that any rocket would be as big as the believers (Sandys) had originally predicted, but that issue is explained away as having been down to bad scientific intelligence on fuel which was only rectified when the United States began its own experiments into new propellants.[83] This unpublished piece of writing neatly captures both the image Sandys came to construct of his contribution to the war effort, and the way he would come to jealously guard his role in the story.

Sandys had certainly come to exaggerate the importance of his war service, but there is little to suggest that he did so to cynically further his own reputation and career. In his history of the German rocket programme, Michael J. Neufeld recounts the story of Dornberger describing the long-range rocket to Hitler as 'this perhaps decisive weapon' in a December 1939 memorandum. This was baseless speculation on Dornberger's part, and Neufeld describes him as having been a 'true believer, and one willing to exaggerate for the sake of the cause'.[84] Sandys' position on unmanned weaponry, whilst not entirely baseless by the time he had come to construct a workable belief system from his wartime experiences, was comparable to this. By analysing Sandys' interpretation of his Second World War experiences outside of the policy-making process, a clear picture begins to emerge of what constituted his individual belief system. He saw the results of the attack on Peenemünde as having been far more important than it really was. In turn, this proves that, in spite of the V-2 threat having never materialised exactly how his committees initially expected it to, he maintained a belief that the V-2 had been a potentially decisive weapon.

This is interesting to note, as he had been willing to row back on his early projections that foresaw giant rockets raining down on London, but seemingly clung to the belief that even in its eventually (much smaller) form the V-2 could have done serious damage to the Allied war effort. Despite this, it was to Sandys' credit that he had wasted little time in recognising that the V-2 descendants held great potential, and therefore represented the future of global warfare. In addition to this, as we shall see in the following chapter, his experiences of so-called 'unconventional' weapons led him to refrain from accepting the emerging notion that nuclear weapons were different from the other, comparably less-destructive weapons that

Britain and the West had long been able to call upon. This would prove to be equally as important as his faith in the supremacy of unmanned weaponry when he was given a chance to articulate his strategic vision in depth as part of the formal policy-making process.

Notes

1. The letter in Sandys' archive is addressed to the 'Chief Scientist', but it is not clear which department the Chief Scientist in question belonged to. David Clarke has written that Sandys' letter was to 'The government's Chief Scientist, Lord Cherwell (Frederick Lindemann)'. This would be interesting in the context of Sandys' relationship with Cherwell, but Cherwell was never the Chief Scientist, and Clarke cites the same document from Sandys' archive as this thesis as his source, so he can only have been speculating: Duncan Sandys to 'Chief Scientist': 12 August 1952; the Papers of Duncan Sandys, Lord Duncan-Sandys (1908–1987); Churchill Archives Centre, Cambridge; DSND 15/4; Clarke, D., *The UFO Files: The Inside Story of Real-life Sightings* (Kew: The National Archives, 2009), p. 47.
2. Ehrman, J., *Grand Strategy: Volume V, August 1943–September 1944* (London: HMSO, 1956), p. 308.
3. DSND 2/10B (whilst Ehrman dates this message as 14 April, this version contained in Sandys' archive is dated 15 April).
4. David Edgerton describes the rocket programme as 'typically cronyist' in its recruitment, and David Irving writes that Bracken and Lord Cherwell, both Churchill favourites, grew jealous of the 'growing tendency of their Prime Minister to confide in his son-in-law'. Irving, however, adds that Sandys 'was unaware of the resentment his appointment caused'; Edgerton, D., *Britain's War Machine: Weapons, Resources and Experts in the Second World War* (London: Penguin Books, 2011), p. 109; Irving, D., *The Mare's Nest: The War Against Hitler's Secret Vengeance Weapons* (London: Panther Books, 1985), pp. 51–52; Jock Colville, the Assistant Private Secretary to the Prime Minister during much of the Second World War, recorded occasions in July 1941 where Churchill had tried to make Sandys Financial Secretary to the War Office and then Under Secretary for Foreign Affairs. Colville described both these attempts as being motivated by nepotism; diary entries of 14

and 16 July, 1941 in Colville, J., *The Fringes of Power: Downing Street Diaries, 1939–1955* (London: Weidenfeld & Nicolson, 2004), pp. 359–360.

5. He had spoken about Britain's vulnerability to aerial bombardment in the March 1935 by-election that brought him into politics; see 'Extract from Mr. Sandys' Speech–Adoption Meeting, 21 February 1935'; DSND 13/16/1; he was the subject of a notable affair in June 1938 when he sent the Secretary of State for War a draft Parliamentary question containing information about anti-aircraft defences that was covered by the Official Secrets Act. He never had any intention of breaking the Act, only of wishing to get the information directly to the Minister, but the government tried to find the source of his information and threatened him with two years in prison (which one historian has described as a 'test case with an eye to prosecuting Churchill' for similar attacks) allowing Sandys to turn it into a full-blown crisis and embarrass the government; see: Harris, J. P., 'The Sandys Storm: The Politics of British Air Defence in 1938' in *Historical Research*, Vol. 62, No. 149 (October, 1989), pp. 318–336; Hyde, E. M., 'Churchill's Personal Spies' in *International Journal of Intelligence and Counterintelligence* Vol. 18, No. 2 (2005), p. 307; when the British were flushed out of Norway, Sandys was sent to work for the Chiefs of Staff. This posting lasted a couple of months until, 'unhappy in an office job in wartime', he volunteered for a commando unit and was given the responsibility for anti-aircraft rockets. By late 1940 these weapons had progressed sufficiently that his regiment managed to down a German aircraft, leading the government to form the batteries in the face of strong opposition from established experts in the field; *Sandys Memoir*, p. 7; Edgerton, *Britain's War Machine*, p. 110; Longmate, N., *The Doodlebugs: The Story of the Flying-Bombs* (London: Hutchinson, 1981), p. 31; for an in-depth account of Sandys and these early guided weapons, see Kendall, D. and Post, K., 'Reminisces and Discoveries: The British 3-Inch Anti-Aircraft Rocket. Part One: Dive Bombers' in *Notes and Records of the Royal Society in London*, Vol. 50, No. 2 (July, 1996), pp. 229–239.
6. *Sandys Memoir*, 5/A/1.
7. Ibid., 5/B/1-2.
8. Ibid., 5/B/2.

9. Ibid., 5/C/1; it is difficult to say whether this exchange of views led to any changes in policy, but Basil Liddell Hart, probably the best-known tank advocate of the day, came to regard Sandys as a fellow 'progressive' in this area; Basil Liddell Hart to Sandys: 9 February, 1943; the Papers of Captain Sir Basil Henry Liddell Hart (1895–1970); Liddell Hart Centre for Military Archives; LH 1/621/9; Brooke on the other hand thought Sandys had a 'self-opinionated amateur's view devoid of all sound basis'; 3 May, 1943; Brooke, A., Danchev, A., and Todman, D. (eds.), *War Diaries: 1939–1945* (London: Phoenix, 2001), p. 398.
10. *Sandys Memoir*, 5/C/2.
11. Sandys' tentatively wrote that this meeting took place 'One day in the summer (?) of 1942', but Grigg became Secretary of State for War on 22 February 1942; *Sandys Memoir*, 5/G/1.
12. Ibid.
13. Grigg 'expressed his criticisms in the most uncompromising terms'; Ibid., 5/B/1.
14. Ibid., 5/G/2.
15. Ibid.
16. Ibid.; Brooke approached Anthony Eden for advice on solving the 'critical' situation, and he promised to do all he could 'short of accepting Sandys in the Foreign Office'. Shortly after, the situation 'eased' and it was not long before Sandys moved on 'to the infinite relief of all of us'; 7, 9, 12, 15 September, 1942; Brooke, *War Diaries*, pp. 318–321.
17. Ibid., 6/A/1-2, 6/E/1-2.
18. In one meeting on tank design, Grigg accused Sandys of arguing that the 'considered policy of the Army Council is wrong, and most be totally reversed'. Sandys' dry response was that this was a 'fair summary of the meaning I intended to convey'; Ibid., 7/A/1.
19. Adolf Hitler came to regard unmanned weapons as potential war-winners, telling his generals that they would force Britain to surrender by the end of the year; Ehrman, *Grand Strategy: Volume V*, p. 306; Gerd von Rundstedt, however, told Liddell Hart that Hitler placed too much faith in the weapons, which warped his strategic thinking; Liddell Hart, B. H., *The German Generals Talk* (London: HarperCollins, 1971), p. 237.
20. 'German Long Range Rocket Development: Interim Report by Joint Parliamentary Secretary, Ministry of Supply, 17 May, 1943'; DSND 2/4/1.

21. Ibid.
22. 'Minutes for Chief of Staff Committee Meeting, 20 May, 1943'; DSND 2/4/1.
23. 'German Long Range Rocket: Third Interim Report by the Joint Parliamentary Secretary, Ministry of Supply, 28 June, 1943'; DSND 2/4/1.
24. Ibid.; Britain had first learned of Peenemünde and its purpose from the so-called 'Oslo Report', a massive leak of German military secrets passed on to British authorities at the outbreak of the war, which, according to R. V. Jones, 'was probably the best single report received from any source during the war'; Jones, R. V., *Reflections on Intelligence* (London: Heinemann, 1989), p. 275; see also Collier, *The Defence of the United Kingdom*, p. 331.
25. 'Minutes of the Defence Committee (Operations), 29 June, 1943'; DSND 2/4/1.
26. Ibid.
27. Ibid.
28. Ibid.
29. The message was received on the morning of 29 June, but Sandys' copy is dated 1 July; 'From Berne to Foreign Office: 29 June 1943'; 'German Long Range Rocket: Fourth Interim Report by the Joint Parliamentary Secretary, Ministry of Supply, 9 July, 1943'; DSND 2/4/1.
30. 'Fourth Interim Report'; DSND 2/4/1; Cherwell used the next War Cabinet meeting to reiterate that the likelihood of Germany solving the 'formidable' technical difficulties remained 'remote', as well as explaining why it was pointless to embark on a new programme of shelter construction. The velocity of the rockets would be such, he said, that in the event of a successful attack 'all fragments would be projected straight into the ground', reducing their effectiveness; 'Extract from Chiefs of Staff Committee: 15 July, 1943'; DSND 2/4/2.
31. 'German Long Range Rocket: Eighth Interim Report by the Joint Parliamentary Secretary, Ministry of Supply, 6 August, 1943' and 'German Long Range Rocket: Ninth Interim Report by the Joint Parliamentary Secretary, Ministry of Supply, 14 August, 1943'; DSND 2/4/2.

32. Everitt, C. and Middlebrook, M., *The Bomber Command War Diaries: An Operational Reference Book, 1939–1945* (New York: Viking, 1985), pp. 422–424.
33. The United States took on the task of attempting the precision bombing of this small site in daylight, and it was repeatedly bombed until Allied forces captured it in September 1944; 'German Long Range Rocket: Tenth Interim Report by the Joint Parliamentary Secretary, Ministry of Supply, 21 August, 1943'; DSND 2/4/2.
34. Ibid.
35. 'Chiefs of Staff Committee: German Long Range Rocket Development, 26 August 1943'; 'War Cabinet: Chiefs of Staff Committee, 31 August, 1943'; DSND 2/4/2.
36. Ibid.
37. Hinsley, F. H., *British Intelligence in the Second World War: Its Influence on Strategy and Operations–Volume Three, Part I* (London: HMSO, 1984), p. 337; see also: Ehrman, *Grand Strategy: Volume V*, pp. 309–310.
38. 'Responsibility for Intelligence for "CROSSBOW": 3 January 1944'; DSND 2/3/1.
39. DSND 2/3/9; in total, the Allies devoted only two per cent of their entire bombing weight to V-weapon launching sites, although this was still more than the amount dropped on specific aircraft factories during the entire war; MacIsaac, D., *Strategic Bombing in World War Two: The Story of the United States Strategic Bombing Survey* (London/New York: Garland Publishing Inc., 1976), p. 158; this was captured in a memorandum the Air Commander-in-Chief of the Allied Expeditionary Force that closed the year by saying 'No single weapon is likely to provide the complete answer … Attacks on installations are the primary means of defence'; 'Memorandum by Air Commander-in-Chief, Allied Expeditionary Air Force (Trafford Leigh-Mallory): 31 December, 1943'; DSND 2/3/9.
40. 'War Cabinet "CROSSBOW" Committee: 20 January, 1944'; DSND 2/3/1; six months later Churchill told the War Cabinet, even when Allied soldiers were situated on the continent, that 'if the rocket attacks should develop, he was prepared, after consultation with the United States and the U.S.S.R. to threaten the enemy with large scale gas attacks in retaliation should such a course

appear profitable'; 'War Cabinet "CROSSBOW" Committee: 18 July, 1944'; DSND 2/3/8.

41. See: 'War Cabinet "CROSSBOW" Committee: 7 February, 1944'; DSND 2/3/2; 'War Cabinet "CROSSBOW" Committee: 8 February, 1944; DSND 2/3/2; and 'Note by the Air Staff: 26 May, 1944'; DSND 2/3/3; the first V-1 hit London on 13 June, 1944, and three days later the Home Secretary, Herbert Morrison, told the Commons that Germany had used their 'much-vaunted new weapon'; Hansard, House of Commons Debates; HC vol. 400, col. 2301 (16 June, 1944).
42. The official history claims that the '"battle of the bomb" was not won by offensive countermeasures, but by the defences'; Collier, *The Defence of the United Kingdom*, p. 389; Brooke wrote about the campaign against the V-2 in his diary on 23 February 1945: 'It is pretty clear that no action has much effect on this form of enemy attack. Our increased air measures have only resulted in additional bombs!! There is only one way of dealing with them and that is by clearing the area from which they come by ground action, and that for the present is not possible'; Brooke, *War Diaries*, p. 665.
43. Churchill reacted to this unspectacular statement with a suggested countermeasure of his own, wondering 'whether we should not publish a list of, say, 100 of the smaller towns in Germany, where the defences were likely to be weak, and announce our intention of destroying them one by one by bombing attacks'. It was left to the Secretary of State for Air, Archibald Sinclair, to politely remind him that half of all Allied air power was at that point engaged against the flying bomb and that it would be 'extremely difficult to spare additional resources from the Battle of France'. He also raised the 'grave risk that attacks of the kind indicated by the Prime Minister would lead to reprisals in the form of the shooting of any air crews who fell into German hands'. In spite of this, 'There was general agreement that the question raised by the Prime Minister should be considered'; 'War Cabinet "CROSSBOW" Committee: 3 July, 1944': DSND 2/3/6.
44. Collier, *The Defence of the United Kingdom*, p. 385.
45. Irving, *The Mare's Nest*, p. 284.
46. 'The Whole Story of How the Flying Bomb was Beaten, by Duncan Sandys M.P.'; *Daily Express*, 8 September, 1944; DSND 2/10/B; Sandys and Jones were said to have both reacted to the explosion,

in different parts of the city, by looking up and exclaiming 'That was a rocket!'; Irving, *The Mare's Nest*, pp. 289–290.

47. Collier, *The Defence of the United Kingdom*, p. 343; Sandys had originally briefed the War Cabinet about a weapon half as long, twice as wide, six times as heavy, and ten times as explosive as what was eventually produced; but as early as January 1944 he had revised these predictions, reporting that the 'explosive load was much smaller than had been previously expected' and that production would be 'limited'; 'Extract from Chiefs of Staff Committee Meeting: 11 January, 1944'; DSND 2/3/1.
48. Hinsley, *British Intelligence*, p. 398.
49. Fort, A., *Prof: The Life of Frederick Lindemann* (London: Jonathan Cape, 2003), pp. 287–288; Jones accepted that this may have 'coloured' his perspective, but thought that it was more a case of Cherwell not wishing to see Britain back on the defensive; Jones, R. V., *Most Secret War* (London: Penguin, 2009), p. 335.
50. Jones had believed in the German rocket from the beginning, but Sandys was not his ideal partner. He accused him of taking the credit for spotting a rocket on an aerial photograph after Jones had brought it to his attention, and of wildly over-estimating the weight of the rockets; Jones, *Most Secret War*, pp. 335–343.
51. Michael J. Neufeld compared the V-2 campaign to aircraft-led strategic bombing and called it 'pathetic', even arguing that the efforts the Germans went to in developing the V-2 meant that 'German missile development shortened the war, just as its advocates said it would, but in favour of the Allies'; Neufeld, M. J., *The Rocket and the Reich: Peenemünde and the Coming of the Ballistic Missile Era* (Cambridge, MA: Harvard University Press, 1995), pp. 273–274.
52. 'For the last few weeks the enemy has been using his new weapon, the long-range rocket, and a number have landed at widely scattered points in this country. In all, the casualties and damage have so far not been heavy, though I am sure the House would wish me to express our sympathy with the victims of this as of other attacks. No official statement about the attack has hitherto been issued. The reason for this silence was that any announcement might have given information useful to the enemy, and we were confirmed in this course by the fact that, until two days ago, the enemy had made no mention of this weapon in his communiques'; Hansard HC vol. 404, col. 1653 (10 November, 1944); in addition to

being unable to destroy them in flight, 'all efforts to interfere with its radio control mechanism have as far proved fruitless'; 'War Cabinet "CROSSBOW" Committee: Seventeenth Report by the Chairman, 23 November, 1944'; DSND 2/3/6; the Chiefs of Staff received the report two days before the War Cabinet.

53. 'War Cabinet "CROSSBOW" Committee: Seventeenth Report by the Chairman, 23 November, 1944'; DSND 2/3/6; according to the official records, the American missile programme, codenamed 'Hermes', began on 15 November, 1944. It is difficult to say how 'ambitious' it was by this stage, or, indeed, how Sandys came to know about it; *A Chronology of Missile and Astronautic Events: Report of the Committee on Science and Astronautics, U.S. House of Representatives, Eighty-Seventh Congress, First Session* (Washington: US Government Printing Office, 1961), p. 7.
54. For example, he sat in on a 9 February 1944 meeting that released scientists from war work in Britain so that they could contribute to the Anglo-Canadian Tube Alloys project; DSND 2/13; see also: *Sandys Memoir*, p. 10.
55. 'Report by the Political Warfare Executive: 1 January, 1944'; DSND 2/3/1.
56. 'Second Report by Assistant Chief of Air Staff (Intelligence), Appendix "B": German Propaganda and a Secret Weapon, 15 January, 1944'; DSND 2/3/6; this claim was supported by the definitive *United States Strategic Bombing Survey*: 'One of the great stimulants to morale applied by the Nazi leaders was the promise of retaliation and secret weapons … There is evidence that as the air raids grew heavier in 1944, faith in the eventual application of the new weapons was the main sustaining hope of many Germans'; *The United States Strategic Bombing Survey: Volume IV* (London/New York: Garland Publishing Inc., 1976), p. 44.
57. The *Strategic Bombing Survey* continued: 'When the V-1 was finally launched, its daily use was closely followed, and the absence of any mention of it in the communiqué for a day or two aroused the greatest anxiety … Late in 1944 and in 1945 the people seem to have lost all hope of winning the war. Their mood was one of complete demoralization bordering on panic. The inability of the V-1 and V-2 rockets to halt the air raids or to interfere with the Allied advances in the West removed their last hope'; *Strategic Bombing Survey: Volume IV*, p. 44.

58. Ibid., p. 49.
59. Churchill, W., *The Second World War: Volume V, Closing the Ring* (London: The Reprint Society, 1952), pp. 185–195; Reynolds, D., *In Command of History: Churchill Fighting and Writing the Second World War* (New York: Basic Books, 2007), p. 400.
60. David Reynolds compares the writing of Churchill's war books to 'running a large, well-funded research group on a par with the barons of modern science. He did not do all the work personally, but he set its parameters, guided its direction, and sustained its momentum, aware of the political timetable governing the whole'; Reynolds, *In Command of History*, p. 400.
61. The official history describes the attack as having done 'good service to the Allied cause', whereas Neufeld has described the raid as ineffective, with its main result being to force the programme into underground facilities to the benefit of the *SS* and their inhumane methods; Collier, *The Defence of the United Kingdom*, p. 349; Neufeld, *The Rocket and the Reich*, pp. 198–200; Dornberger, W., *V2* (New York: Viking Press, 1954), pp. 163–164.
62. The Papers of Sir Winston Churchill (1874–1965); Churchill Archives Centre, Cambridge; CHUR 4/314/48.
63. CHUR 4/314/294; Reynolds, *In Command of History*, pp. 400–401; Christy Campbell has written that Churchill brought Jones on board when Sandys proved himself to have been 'not quite up to it', but this was not the case; Campbell, C., *Target London: Under Attack From The V-Weapons During WWII* (London: Abacus, 2013), p. 31.
64. Churchill, *The Second World War: Volume V*, p. 191.
65. Jenkins writes that Churchill's wife, Clementine, tried to talk him out of giving Sandys such an important role, lest it be seen as nepotistic, and Clive Ponting claims that she actually convinced Churchill not to make him Secretary of State for War; Jenkins, R., *Churchill* (London: Macmillan, 2001), p. 829; Ponting, C., *Churchill* (London: Sinclair Stevenson, 1994), p. 755.
66. Churchill, W., *The Second World War: Volume VI, Triumph and Tragedy* (London: The Reprint Society, 1954), pp. 47–60; Reynolds, *In Command of History*, p. 456.
67. CHUR 4/346/119-127.
68. Ibid.
69. CHUR 4/346/149-151.

70. 20 February, 1953; CHUR 4/346/143.
71. Churchill, *The Second World War: Volume VI*, p. 59.
72. Sandys claimed that his role involved a 'larger personal responsibility than anyone else', and that Jones and the Intelligence Staff had seen their roles 'magnified beyond all recognition'. He was also accused of having provided the War Cabinet with 'speculative account[s]', which he said was 'offensive'; 'General Comments'; DSND 2/10D.
73. J. R. M. Butler to Sandys: 29 February, 1956; DSND 2/10D.
74. Sandys to J. R. M. Butler: 29 February, 1956; DSND 2/10D.
75. 'The Defence of the United Kingdom: 23 February, 1956'; DSND 2/10D.
76. Collier, *The Defence of the United Kingdom*, p. 349.
77. Irving's letters to Sandys can be found in DSND 15/17.
78. *Evening Standard*: 1 December, 1964; DSND 2/10A.
79. Eisenhower, D. D., *Crusade in Europe* (London: William Heinemann Limited, 1948), pp. 284–285.
80. Irving, *The Mare's Nest*, pp. 21–22.
81. *Sandys Memoir*, p. 11.
82. Ibid.; *The Scientific Controversy* (undated); DSND 2/10C.
83. *The Scientific Controversy*; DSND 2/10C.
84. Neufeld, *The Rocket and the Reich*, pp. 124–125.

CHAPTER 3

The Ministry of Supply and the Radical Review: 1953–1954

The primary intention of this volume is to explore the extent to which Sandys utilised the perceived lessons of his Second World War experiences in his activities as Minister of Defence, and to ascertain the degree to which these experiences led him to become wedded to the ideas contained in his 1957 White Paper to the extent that he continued to champion them long after their impracticalities had been made apparent. In order to show the consistency in his approach, it is also worthwhile to explain how he had previously attempted to draw upon those lessons in a context that, whilst different in some respects, was still one characterised by the sort of non-routine and ambiguous situations in which the use of personal belief systems in the policy-making process could thrive. This chapter follows how Sandys turned his experiences into policy preferences and considers his work at the Ministry of Supply throughout 1953 and 1954, when he was called upon to make a significant contribution to the defence policy-making process for the first time.

Despite being sent to the Ministry of Supply to re-organise the steel industry, the role put Sandys at the heart of the defence policy-making process at an important time. The new Conservative administration had inherited a costly rearmament programme hastily put together by the previous Labour government in response to the Korean War (25 June 1950–27 July 1953), but there had been little serious consideration as to how Britain could continue to meet its wide-ranging commitments without placing an excessive strain on the economy. To this end the Chiefs of Staff submitted a report in June 1952 titled *Defence Policy and Global*

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Strategy that intended to put economic concerns at the heart of strategic planning.[1] However, when the 1952 review was deemed insubstantial, Churchill instigated what became known as the 'Radical Review', which sought to examine British defence policy more thoroughly in pursuit of a manageable defence budget. It was during this Radical Review of defence policy and expenditure, and its climate of uncertainty and potential upheaval, that Sandys was first able to arrange his policy preferences into a coherent strategic concept.

It has been noted by other historians how the ideas put forward by Sandys at the Ministry of Supply influenced his later work at the Ministry of Defence, but the debt which these ideas owed to his Second World War experiences, in particular his report of November 1944, has so far not been given proper consideration.[2] This period in Sandys' policy-making career also deserves attention because the Ministry of Supply was not bound to any particular branch of the Armed Forces. This meant that he was almost uniquely able to propose comprehensive solutions to the dilemmas Britain faced without having to defer to service sensibilities or established ways of thinking. The result of this was that he tended to go well beyond what his more conservative colleagues and the Chiefs of Staff were willing to countenance, advocating long-term measures that the Ministry of Defence rejected as being unsuitably 'revolutionary'.[3] Unfortunately, Sandys failed to complete the proposed sections of his memoirs relating to the Ministry of Supply, and potentially interesting government files from this period are still closed to the public.[4] This leaves us wondering about several aspects of the policy-making environment within the Ministry of Supply, if not about the actual results. With his lengthy memoranda of June and November 1953, Sandys challenged the Chiefs of Staff, questioning their fundamental interpretation of the Cold War, whilst also arguing for a policy of dependence on unmanned weaponry and thermonuclear weapons at a time when his political colleagues and the defence establishment hesitated to make even minor alterations to Britain's strategic priorities.

In Opposition

Prior to the Second World War Sandys had opposed appeasement, but he had never really done so to the same extent as some of his Conservative colleagues, having regarded the Soviet Union and communism as the more apparent threat until Nazi Germany began to make significant territorial demands in Central and Eastern Europe.[5] Despite this, his memoir

gives the impression that his 1933 resignation from the Foreign Office in favour of an entry into politics was driven by the government 'not taking [the] Nazi menace seriously'.[6] Had this been the case, it is unlikely that, a mere two years later, he would have used his maiden speech in the House of Commons to criticise the idea of an anti-German alliance in Europe that 'could, at the most, hope to maintain an unhealthy and precarious state of armed peace', and call instead for Britain to allow the German domination of continental Europe in exchange for not pressing the 'Colonial and naval question' upon which British power was based.[7] Churchill issued a forty minute rebuke to the new Member, concluding that his idea 'has only to be stated to be rejected', but Sandys returned a few weeks later to claim that whilst Germany believed 'firmly—and this cannot be too strongly emphasised—in a natural friendship between Germany and Great Britain based upon a racial affinity', the Soviet Union had 'never ceased to direct its special attention to decrying British Imperialism'.[8] He may have married Churchill's eldest daughter shortly after making these speeches, making him part of the close-knit Churchill circle, and inevitably influencing his position on appeasement, but Sandys was still sufficiently pro-German two years later to have welcomed the 'satisfaction which is widely held at the signs of improved Anglo-German relations'.[9]

When Norwood became one of many Conservative-held seats to fall victim to the 1945 Labour landslide, Sandys turned his attention to journalism and dairy farming; but his mind 'began increasingly to wander beyond the horizon of the farm fence'.[10] Churchill had wanted him to run the Conservative Research Department, and reinvigorate the shattered party, but the informal Shadow Cabinet fought to prevent it.[11] Such a consensus-building role would probably not have suited Sandys, and he found his calling away from the Commons by leading the United European Movement (a precursor to the European Movement), where he was responsible for soliciting covert funding from a United States government eager to see Western Europe united against the threat of Soviet expansion.[12] Throwing himself behind a firmly-defined object was a much more worthwhile use of Sandys' abilities, and he effectively pestered Churchill into providing the movement with much of its popular and political momentum.[13] Churchill was happy enough to sub-contract his involvement to Sandys, but they still disagreed on one central point. Churchill sought a united Europe existing alongside the British Empire, with Britain providing the all-important link between Europe and the United States as it had during the Second World War. Sandys harboured no such sentimentality, believing that Indian independence had fatally weakened the Empire,

and concluding that Britain had two alternatives if it wished to remain relevant. It could bolster the 'Special Relationship' with the United States, the realities of which would, in Sandys' mind, have meant subordination and a lack of influence over Western military policy that was simply unacceptable. Or Britain could take the lead in forcing Europe into full economic and military integration to become the genuine equal of the United States. British power would still be diluted within this structure, but a leadership role within Europe struck Sandys as a much more beneficial state of affairs than being the junior partner of another power.[14]

This concept of British standing in the world may have had some relevance for his defence policy preferences. If Sandys was wary of British foreign policy becoming subordinate to United States interests, to the extent that he considered a European superstate accompanied by a significant military capability preferable, his defence policy preferences can be seen in another light. It will be shown that, whilst the Minister of Supply, he was notably insensitive to the Royal Navy's argument that their aircraft carriers bought Britain a worthwhile say in Atlantic naval policy. This argument eventually won over Churchill, after Sandys had almost convinced him to drastically reduce the role of the Navy, but it would return in opposition to Sandys when the Navy turned it against the Air Force, and their apparent need for an increasingly expensive nuclear delivery system, when they themselves admitted that the ultimate defence of Britain rested in American hands. Sandys' insistence on the maintenance of an independent element of British nuclear deterrence (preferably manufactured independently by Britain, but definitely under British control) could perhaps also be understood through this aspect of his foreign policy preferences.[15]

In July 1947, having decided to return to front-line politics, Sandys secured the candidacy for the Streatham Conservative Association with a speech claiming that 'Our country is faced with an imminent threat of economic collapse'; but his real view can be seen in his original draft which said Britain was 'faced with two really big dangers—economic collapse and war'.[16] The next global war constantly played on Sandys' mind, but it was not a prospect that he shied away from, establishing himself as a hard-line anti-communist as the Streatham candidate, attacking both the Soviet Union and the Labour Party as being intrinsically linked.[17] During his time at the Foreign Office, Sandys had toured the Soviet Union to gather information about Soviet air routes for the Air Ministry, and he was struck by the 'utter ruthlessness of Soviet methods and of their callous disregard for human suffering'.[18] This explains his earlier pro-German sentiment to

some extent, as he later wrote that this brief visit had 'convinced me of the impossibility of ever establishing normal relations between a Communist Russia and a democratic Europe', and he raised this in a March 1948 speech that asked whether Labour politicians were ever really capable and willing to 'stand up firmly against the Communist menace'.[19] This was not an unusual charge for an ambitious Conservative to have made, being echoed by Macmillan amongst others, but Sandys' draft of this speech contained an undelivered passage that may have startled his contemporaries:

> As the crisis darkens, the cry will go up increasingly from Labour Party ranks for more and redder Socialism … Once the Labour Party comes under the leadership of men drawn from its extreme left wing, it will find it quite impossible to resist some alliance of fusion with the Communists. That will be the beginning in England of the process which on the Continent has sapped and destroyed one free country after another.[20]

Why Sandys removed this passage from his speech can only be speculated upon. Somewhat strangely, his memoir makes no mention of his post-war anti-communism, noting only his pre-war anxieties about the 'Soviet objective of world domination', but he was certainly preoccupied with apocalyptic notions.[21] In an October 1948 speech he discussed the ongoing blockade of Berlin, saying that even if the blockade was lifted the 'main problems will remain unsolved'. He raised the possibility of the Soviet Union developing atomic weapons, and referred to his Second World War experiences as he explored possible solutions:

> In the last war I had a good deal to do with the defence against German V-weapons. We reckoned that if we had not succeeded in putting off the V-2 rocket bombardment until the French coast had been overrun by our troops, London would probably have been rendered unusable. If the rocket had contained an atomic bomb—and at one moment we feared that it might—London would, of course, have been annihilated. We who live in the fattest, most alluring of all bomb targets in the world have a very special interest in seeing that the Western democracies and Soviet Russia are settled and atomic energy brought under international control before Russia herself acquires this terrible engine of destruction.[22]

He made it clear that he desired a peaceful settlement, but consideration had to be given to all possible alternatives. If 'in her obstinacy' the Soviet Union should start the Third World War, Sandys thought that 'it would be

better to have it now or in the near future'. The United States' monopoly on atomic weapons ensured favourable conditions for a Western victory, and trying to run away from the inevitable 'was the argument made at Munich in 1938'.[23]

When these words were reported by the local newspaper, readers and political opponents accused him of war-mongering. Sandys did write to clarify that 'Only a madman—and certainly no-one who fought in the last war like myself' wanted a war with the Soviet Union, but he held firm in arguing that 'we shall not avoid war by pretending that the danger of it does not exist'.[24] It was important for the West to insist on its rights in Berlin 'not because it is the only, or even the most important of our points of difference with Russia, but because it is the most immediate, the most clearly defined and, for that reason, perhaps the least difficult to tackle'. It was only by making a stand, and proving successful in Berlin, that the West could make the Soviet Union take notice and 'become more co-operative in the settlement of other matters'.[25]

Sandys was returned to the Commons in the general election of February 1950, when the Conservatives regained many of the seats lost in 1945, but not enough to topple the Labour government, and he maintained his campaign against the Soviet Union as an elected representative. In July he told the Streatham Chamber of Commerce that the world existed in a 'state of danger no less than followed Munich in 1938'. Believing that such an 'explosive state of affairs cannot continue indefinitely', he told his audience that 'we should be lacking in our duty as a nation if we did not put defence before the restoration of prosperity', adding 'what is at stake is our very lives and the freedom we fought for in the last war'.[26] In contrast to this strident 'Cold Warrior' sentiment, Churchill had by this point started to tone down his anti-communist rhetoric with a return to government in mind; but Sandys had no such concerns.[27] In December he told a crowd in Streatham that there was only a 'year or 18 months' left before the Soviet Union acquired enough nuclear weapons to pose a 'serious operational danger to the Western world'. Similar warnings featured in many of his speeches at this time, but what makes this particular address stand out was his answer to an audience question about the possible use of nuclear weapons in Korea. He said that he did not think nuclear weapons would prove particularly useful there, but added:

> It is a very grave responsibility to take if you are responsible for the lives of very large numbers of your fellow countrymen and the men of other nation-

> alities who are fighting for a certain cause which you believe to be right. It is equally a very grave responsibility to allow those men to be killed and taken prisoner in the sort of conditions which you have in those countries—if you have something in the bag which would prevent it.[28]

This was a remarkable statement, as was his belief that there was no 'rule of thumb under what circumstances the atom bomb may be used'.[29] This speech had been delivered in the wake of the President of the United States, Harry S. Truman, telling the press on 30 November that 'every weapon that we have' was being considered for use in Korea. Truman did not want to see such a 'terrible weapon' used, but, when questioned by journalists who could not quite believe what he had said, he bluntly described it as just 'one of our weapons', and appeared to suggest that Douglas MacArthur, the American general in charge of the United Nations' forces in Korea, would have the final decision on their use.[30] When these words were greeted with a certain amount of surprise, the White House quickly issued a press release to clarify that 'only the President can authorize the use of the atom bomb', and that he had yet to do so, albeit whilst admitting that 'Consideration of the use of any weapon is always implicit in the very possession of that weapon.'[31]

John Lewis Gaddis has called it 'striking' that Truman never seriously considered using his most powerful weapons, even when the combined United Nations force was on the verge of defeat, given that United States strategy at the time depended on a 'high technology-low manpower' policy. He writes that Truman inadvertently launched a 'trial balloon' which revealed the hostility of his allies to such a scenario, which, combined with his own aversion to the idea, ruled it out.[32] The implication of Sandys' words is that, rather than nuclear weapons representing an absolute and final threat, he saw their use as a practical policy alternative. It may have been the case that Sandys, like a lot of people who had been involved with the development and implementation of strategic bombing, was less inclined to view nuclear warfare as anything other than a logical development of existing practices. This would fit with his earlier belief that the issue should have been forced with the Soviet Union whilst the West held a monopoly on nuclear weapons (which was an argument made elsewhere), as well as his habit of being coldly logical in his approach to such matters.[33] If Sandys believed that the destructive power of nuclear weapons could be utilised in circumstances other than deterring a world-ending Soviet nuclear attack (or responding to it should deterrence fail), then another

of his central policy preferences can be said to have been firmly in place by this point. Unlike those who valued nuclear weapons solely for their deterrent or political effect, and who could not contemplate actually having to use them, Sandys' logical approach informed those policy preferences concerning Britain's status as a nuclear power, namely the need for a greater level of operational independence, by placing the emphasis on what would actually work should Britain ever need to destroy the Soviet Union.

The Radical Review

Defence Policy and Global Strategy declared itself to be the 'basis for the revision of planned forces and defence production programmes', prompted by economic concerns and the perceived changes in warfare brought about by the ever-increasing power of the United States' atomic weapons stockpile. Baylis has contested the idea that the report was revolutionary, which is a mistake he feels past historians have made when arguing that it was the first attempt at putting nuclear deterrence at the forefront of British strategy, as reviews undertaken in 1947 and 1950 placed similar emphasis on nuclear deterrence. The main legacy of *Global Strategy* was that 'economic criteria had become central to the strategic planning process', in contrast to previous policy reviews where responsibilities were laid down and the British economy was expected to keep up, although he notes that the final paragraph of the report (which was highlighted for emphasis in the original document) had said that if spending reductions diminished Britain's ability to project power overseas, they could be undertaken 'only by incurring real and serious risks'; risks that were only worth taking 'in the face of the threat of economic disaster'.[34]

The Chiefs of Staff bolstered their position by reporting the 'implacable and unlimited aims of Soviet Russia', amounting to a policy of 'world-domination', whilst also claiming that the United States' atomic advantage meant that the Soviet Union would not last more than a 'few weeks' in any full-scale war. Therefore, the priority for Britain was to maintain an effective nuclear deterrent. It had also become clear to the Chiefs of Staff that for the 'foreseeable future' there would be 'no effective defence against atomic air attack'. This carried the 'gravest implications for the United Kingdom', because Britain was thought to possess the 'most threatening bomber bases from which atomic attacks on Russia could be launched', and these were expected to be primary targets for a Soviet Union still incapable of launching decisive attacks against the United States mainland.

There was still thought to be a market for 'long-term defensive measures against air attack', but, given that there was nothing in sight to fully protect the nation, Britain could not afford to prioritise defensive measures above its only effective defence—the main deterrent force.[35]

The report had formed its conclusions by predicting that, although war with the Soviet Union was highly unlikely, if the unthinkable happened then it would begin with them launching an atomic bombardment of 'unparalleled intensity', followed by an 'intermittent struggle' across the globe during which 'vital sea lanes and ports must be kept open'. The Chiefs of Staff told the government to prepare for a 'prolonged period of Cold War', and the strategic priorities for Britain were deemed to be as follows:

1. Action required to win the Cold War.
2. Playing our part in the deterrents against war.
3. Preparations for war.

In order to accomplish these tasks, the review stressed the necessity of protecting the 'North Atlantic lifeline', which meant a strong Navy; the need for an expanded strategic bomber programme 'at the expense of aircraft for tactical use' if need be; the continuation of nuclear weapons development; and the importance of maintaining troops in Europe, the Middle East, and the Far East (despite admitting that reducing such overseas commitments could have made for relatively painless savings).[36]

In September 1952 the Chiefs of Staff submitted another report confirming their belief that the proposed cost-saving measures demanded by the government were 'unacceptable on military grounds', and would have meant 'risks which we cannot believe to be justified in the present state of international relations'.[37] Having been asked once more to find further savings, they warned the government on 31 October that their June review was in danger of being made redundant due to the changes in policy that would need to be made in order to meet these new targets. They asked that either the government found the money to make their June recommendations work, or that it took steps to 'reduce our commitments—and hence our status'. This drastic alternative threatened to have a 'catastrophic' effect 'not only on our military but also on our economic position', thereby undermining the entire exercise.[38] Within hours of this latest warning making its way around Whitehall the strategic situation was permanently altered when the United States detonated *Ivy Mike*, the first

thermonuclear device. With characteristic vigour, Churchill responded by asking Norman Brook, the Cabinet Secretary, to establish a Ministerial Committee to report on future defence policy in this new era of hitherto undreamt of destructive capabilities.[39]

The government had only just compromised on spending for 1953, but when Brook met with civil servants from the Treasury, the Foreign Office, and the Ministry of Defence to discuss how to proceed, it was pointed out that asking the Chiefs of Staff for guidance would be 'pointless', since they refused to look beyond existing commitments.[40] The Committee was to formulate the Radical Review, and in January 1953 Brook brought his group of civil servants together, along with the Chiefs of Staff, to build on some of the recommendations put forward in 1952. Brook made it clear that previous defence reviews were seen by the politicians as mere 'deferments of certain measures', which was no longer a suitable approach when the prospect of thermonuclear weapons becoming commonplace had reduced the likelihood of a 'hot war' breaking out. Planning for a 'long period of cold war' was to be given priority.[41]

That progress would be unsatisfactory had been apparent from the start. Half an hour before their first meeting with Brook, the Chiefs of Staff met to plan their approach to negotiations, agreeing that, since 'all possible pruning' had been done, defence spending could only be reduced through 'major changes of policy'.[42] William Dickson, the Chief of the Air Staff, was happy to prioritise 'survival during the first intensive phase', but Rhoderick McGrigor, the First Sea Lord, disagreed. He felt that such priorities did not apply to the Navy as they did to air and ground forces, because the Navy was required to 'keep our lifeline to the North American Continent' open in order to survive the 'protracted' second phase and to build reserves for the 'final victory'.[43] McGrigor won the argument, and was able to inform the Brook Committee that there was no need for another defence review, because 'economic and political factors' had previously been taken into account. He also claimed that their 1952 report had accounted for 'deliberate hot war' becoming less likely than drifting into war 'by some indiscreet action on either side', so, in the opinion of the Chiefs of Staff, no further reductions in defence expenditure could be made without being accompanied by 'some drastic change in policy'.[44]

The Committee was forced to operate within a conservative framework, and when Brook submitted his report on 20 May there was little to differentiate it from *Global Strategy*. It met the requirements of the Radical Review in that it accepted that the priorities decided by the Chiefs

of Staff in 1952 were quite vague, failing as they did to properly consider the need to 'maintain our influence as a world Power'; but all Brook did was lean towards even more open-ended interpretations, such as the need to 'maintain forces overseas even if all our cold-war commitments came to an end'. The report saw 'no prospect' of meeting the reductions demanded by the Treasury, because reductions on that scale would require a new strategic policy 'devised to meet the financial circumstances', the implications of which were clear from the apocalyptic visions of future naval and aerial strength predicted by the report.[45]

The Sandys Doctrine

With the Brook Committee proving something of a let-down to the government, and with the Chiefs of Staff either unable or unwilling to find the savings asked of them, the politicians took charge of the Radical Review and scheduled an 18 June meeting with only the Service Ministers representing the Armed Forces.[46] Before the meeting, Sandys, who was only really involved because his department had a hand in defence procurement, rather than strategic policy-making, had circulated an eleven-page memorandum in which he explained his strategic vision at length across ninety-seven separate points. His preferred approach was to 'concentrate expenditure on those objects which will give the highest return in terms of effective defence', and of 'concentrating our strength at the vital points'. This was in sharp contrast to the Chiefs of Staff, who merely sought to stretch ever-dwindling resources further and further; a policy that Sandys said could only lead to a 'general lowering of the standards of efficiency and preparedness'.[47] The result of this alternative approach was a more radical plan for the subordination of policy to the economic realities of medium power status than most were willing to contemplate.

The opening paragraphs of his memorandum proposed some measure of colonial retreat, where only the 'minimum forces necessary' should be designated for colonial responsibilities, but with a strategic reserve based in Britain to be deployed rapidly 'In the event of troubles, such as we are now having in Malaya and Kenya'. The protection of Hong Kong by 'offensive operations against the aggressor country', rather than local operations, was one suggested example a of cost-saving measure, even though such a policy would presumably have risked an even more costly general war with China, as he would later admit that operations mounted

in defence of Hong Kong 'need not necessarily be conducted in Hong Kong'.[48]

It was then that he turned his attention to the strategic priorities of the Chiefs of Staff. He disagreed with the idea of prioritising deterrence over having to win a 'hot war', writing that they 'form part of a single task and to attempt to separate them is confusing':

> [T]he task of winning the cold war consists primarily in building up deterrents against a hot war. Similarly, the only deterrents which are likely to be effective are actual preparations for war, such as will convince a potential aggressor that he will surely be defeated. Therefore, apart from the requirements of Commonwealth commitments, our defence effort must be directed towards one single objective, namely, to prepare for the possibility of a major war with Russia. This will not only put us in the best position to defend ourselves if war should come, but will provide the best hope of preventing it.[49]

This is evidence of Sandys again normalising nuclear weapons by viewing them as part of general strategic considerations. The Chiefs of Staff thought that a 'hot war' breaking out with the Soviet Union would have represented a failure of deterrence, with the result being a distinctive new war. For Sandys, who did not neatly separate nuclear and non-nuclear warfare in this manner, it would have simply meant that the British supply of nuclear weapons had not proven to be as useful as might have been expected. Thus the same war continued, only with more potent weapons. His experiences of trying to counter the V-2 threat during the Second World War, and his subsequent exaggeration of the importance of having done so, can be said to have informed this position. The unconventional weapons Germany produced, whilst thought of as potentially devastating, were ultimately seen as just another target to be [successfully] neutralised by Britain's own long-range revenge weapon—the heavy, manned bombers of Bomber Command. Additionally, because no direct means of defence against the V-2 had been found, this sort of indirect defence had been deemed the most suitable countermeasure. If the Soviet Union was going to decide any future global war with its nuclear arsenal, as Sandys' seemingly believed Hitler had intended to do with his unmanned weapons programme, then deterrence and defence became one and the same. The former meant devising a policy of threatening to destroy the Soviet Union; the latter simply meant implementing it.

This belief fitted with his assumption that any war would begin as a nuclear war, so Sandys concluded that 'For us in this small island the opening phase will be decisive'. If the Soviet Union could bring enough force to bear that British industry was crippled and American bomber bases rendered worthless, 'Britain would be for all practical purposes be knocked out of the war'. Therefore, this 'decisive opening phase' should be given priority, and anything that failed to increase Britain's chances of surviving the opening few weeks of nuclear war must 'unhesitatingly' become a lesser consideration. To this end he emphasised the need to focus on the 'Introduction of New Weapons', and the influence of his war experiences was clear to see in making his case:

> The Russians have the advantage over us in military manpower. Our chief strength lies in the superior quality of our equipment. If we were to lose the technical lead and initiative which we now possess over the Russians, our situation would indeed be precarious. Moreover, the knowledge that we and the Americans are continuously evolving new and more powerful weapons, which are liable to upset Soviet military calculations, is bound to make the Kremlin hesitate to risk war, and therefore contributes a most important factor for peace.[50]

Along with the call for 'no reduction of effort on basic research … upon which all further advances in the science of war depend', this was one of the main points of his November 1944 report to the War Cabinet. That report had predicted that 'possession of superiority in long distance rocket artillery may well count for nearly as much as superiority in naval or air power', and warned that Britain would be further disadvantaged if rocket programmes were not adequately funded.[51]

This was all in keeping with Sandys' belief that atomic weapons were nothing special; but his casual statement that his proposals would prove equally applicable 'in due course' to thermonuclear weapons is worth noting.[52] In terms of existing programmes, the proposals he put forward in this memorandum have to be considered alongside the fact that Britain had only tested its first atomic device in October 1952, and that it would still be some time before a viable British atomic weapon could be paired with the first of the V-bombers.[53] This was not something that required a quick decision. In the United States, as would eventually be the case in Britain, policy-makers had only initiated their thermonuclear weapons programme after an intense period of debate, and in many cases with some

reluctance.[54] By contrast, Sandys does not appear to have given the issue much thought at all. Even though there is evidence to suggest that he was well-informed as to the nature of thermonuclear weapons, there is nothing in either his personal records or in the government archives to give the impression that he had considered the matter beyond welcoming these developments as confirmation of his own logic.[55]

If kiloton weapons were effective, megaton weapons were more effective, and if thermonuclear weapons were to become the 'main instrument for strategic counter-attack', then Sandys thought that any country 'which does not possess a substantial stock of these, together with the means of delivering them, cannot be regarded militarily as a first-class power'.[56] Because Sandys saw the delivery of nuclear weapons as a matter of active defence policy, he took the need to possess an effective delivery system equally as seriously:

> The adoption of guided rockets for anti-aircraft defence must ultimately be followed by the development of long-range guided rockets for use in offensive bombing roles. Preliminary investigations indicate that it should be technically possible, within the next 10 years or so, to produce guided rockets, which could travel at altitudes of over 70,000 ft. and at speeds several times that of sound, and which would be capable of accurately delivering bombs at ranges up to 2000 miles. There is no doubt that the devastating possibilities of the long-range guided rocket, carrying an atomic or hydrogen warhead, are such that we cannot afford to allow the Russians to produce weapons of this kind ahead of us. Nor must we neglect the study of possible methods of defence.[57]

It would not be unfair to say that at this point Sandys was somewhat ahead of the curve in his thinking. When the Brook Committee investigated the problems of air defence, it made extensive use of a Chiefs of Staff report estimating that Britain would receive a 'substantial proportion' of the Soviet atomic stockpile (thought to have been between 100 and 200 weapons), and that a 'high percentage' would reach their targets even if current air defence estimates were maintained.[58] Despite owing its existence largely to the American thermonuclear weapons test, the Brooke Committee appears to have given no special consideration to the effects that massively increased destructive power promised to have on British strategic priorities. Even the Guided Weapons Advisory Board, which reported directly to the Minister of Supply, and had studied Sandys' fight

against the V-2, was unable or unwilling to think too far ahead. When the board met during the first weeks of the Radical Review process it was suggested that 'active defence might not be possible', but that passive defence might be 'profitable' if any long-range rocket attack involved only a 'small number, with atomic warheads'.[59] When Sandys framed his recommendations as relating to the 'next 10 years or so', he had clearly taken the long-term aims of the Radical Review to heart. This cannot be said of the esteemed scientists and engineers, representing both the state and industry, who made up the Guided Weapons Advisory Board. Their projections were decidedly conservative, failing to consider the possibility that the Soviet Union might invest heavily in ballistic missiles, despite admitting that they would prove difficult to defend against, or that they could easily be equipped with thermonuclear warheads. There is no clear evidence of Sandys being moved to voice any disagreements he might have had with the Guided Weapons Advisory Board, but its reluctance to see beyond what will have seemed to him like such conservative projections must have worked to reinforce his willingness to override supposed expert opinion where it came into conflict with his own policy preferences.

Reaction

Sandys' strategic concept differed wildly from what other departments had put forward. Anthony Head, the Secretary of State for War, had also disagreed with the Chiefs of Staff priorities, but his three-page contribution to the debate was much more limited. Head suggested that the main deterrent against Soviet aggression was American nuclear strength, to which Britain could never make a 'decisive' contribution. His priorities for Britain were that 'we win, or at least do not lose, the cold war', and that 'hot war' preparations should actually be considered before nuclear programmes 'which duplicate strength created or about to be created in America'. From this he recommended a greater level of synchronisation with the United States, writing that the Navy should complement their 'very great preponderance of naval strength', rather than attempt to compete with it, and that a similar link-up with the United States Air Force was necessary if Britain was to scale back its bomber force which he felt was already too large. Research and development could also be streamlined through greater Anglo-American cooperation, as could the functions of the Ministry of Supply, which Head felt were too broad for one Minister to 'supervise closely' whilst also dealing with the steel industry.[60] By com-

parison, Sandys' vision of Anglo-American cooperation was based on the need to 'maintain our special position as America's major partner'. This meant having enough military might to 'prevent ourselves being rated on a level with France', which, in accordance with Sandys' conception of warfare, meant having the ability to 'play some appreciable part' in an actual nuclear attack against the Soviet Union.[61]

Where Sandys and Head found some common ground was on the role of the Navy, which had been taken to task in Sandys' memorandum. The role of the Navy under his proposed policies of thermonuclear stockpiling would have mainly been one of anti-submarine and minesweeping operations. Coupled with an expectation that the United States would protect convoys in the Western Atlantic, where the dangers of mining and submarines would probably be reduced, and because they would most likely be American ships transporting materials to any theatre of war that survived the opening phase, this meant that an 'appreciable reduction in expenditure on aircraft-carriers and the costly aircraft which operate from them' was both possible and desirable.[62]

The Admiralty rushed out a response the day before the meeting to remind those set to attend what the Navy was for. It claimed that the United States could not be relied upon straight away in the North Sea, so it would be up to Britain to close the Baltic and protect Norwegian sea lanes from the 'very powerful' Soviet Naval Air Arm. Soviet cruisers would also need to be countered with British cruisers and aircraft carriers if they were to be prevented from disrupting trade. Sandys had prepared for these arguments, but he was never able to get the better of their political appeals. The strongest cards the Navy held were the sentimental appeals to its supposed worth in 'uniting us with the distant members of the Commonwealth', and the service questioning whether any government 'prepared to implement a Continental strategy at the price of being a world power could continue to enjoy the support of the nation'.[63]

For all the immediate hostility that Sandys' ideas provoked, Churchill was receptive. He explained that he still hoped to find some form of détente with the Soviet Union, and that until he could do so it would be 'fatal' if anybody noticed that Britain was cutting its defence expenditure; but he was still in full agreement with Sandys' main idea of 'lay[ing] down operational priorities which would make possible a reshaping of the Armed Forces'. These priorities were, as explained in his memorandum, whatever contributed to surviving the 'first six weeks of the next war'.[64] Sandys' arguments for planning for the decisive opening phase were accepted by

Churchill, and Harold Alexander, now the Minister of Defence, was sent to inform the Chiefs of Staff that they would have to 'urgently' trim another £308 million from their proposed programme for 1955–6, which would have meant freezing expenditure at its then level.[65] Clark and Wheeler have called this 'June Directive' the first occasion in the age of nuclear weapons where 'Ministers had initiated changes in strategic doctrine without prior consultation with their military advisors', and Sandys was the driving force behind it.[66]

The Chiefs of Staff reacted negatively to these new priorities. McGrigor slammed what he saw as a move towards a 'defensive "Maginot" attitude' that might 'militate strongly against the survival of the United Kingdom'. Two days later he followed this up by claiming that reducing naval functions was 'patently unsound', and could only have been decided upon by the politicians if they believed that the likelihood of war was receding. Therefore, if these cost targets were to be met, McGrigor said that 'reductions should be recommended that were capable of immediate replacement in war', which meant preserving heavy equipment like ships over armies that could be scratched together relatively quickly.[67] John Harding, the Chief of the Imperial General Staff, agreed with the First Sea Lord about the 'unrealism and unsoundness' of the proposal, but urged him to go along with the terms of reference put forward by the government. Their arguments against the results of fresh economies should, he prophetically suggested, be saved for a later date.[68]

The adoption of Sandys' priorities presented a major threat to the Navy, and the Admiralty became so irritated by him that they sent the Director of Naval Intelligence and the Vice Chief of the Naval Staff to give him a three-hour briefing on what they thought he did not understand about naval warfare.[69] His approach might have been direct, but Sandys' ideas merely reflected the debates that had surrounded 'broken-backed' warfare (an idea that Eric Grove has said was 'weak', and which the other Chiefs of Staff would have happily dropped) for some time.[70] With the Armed Forces set against him, Sandys found an unexpected ally in the Paymaster-General. Churchill had boosted the role of Paymaster-General by effectively making it his personal link to all of the atomic activity in Britain, and such a role required somebody as familiar with Churchill's working habits as they were with science—in this case, Cherwell. In a meeting where it was made clear that further reductions could only be achieved by 'cutting out substantial sections of valuable defence organisation', Cherwell backed his old rival over the defence establishment, proposing

to take 'very big risks by gambling on the success of new inventions and new techniques'. He had unmanned weapons in mind, as well as a policy of leaving anti-submarine operations to the Air Force, believing that these ideas would have allowed Britain to remove 'whole groups of armaments' from its strategic calculations, naturally saving a lot of money.[71]

Sandys followed Cherwell by again calling for a 'detailed examination' of British strategic priorities, the main one of which was still 'to prevent our total annihilation in the early stages of a future war'.[72] He framed the issue as being about two questions. How much warning could Britain expect before the opening Soviet bombardment; and what part did the United States intend to play in the opening phase across the world? These questions put the spotlight on the Navy, since a surprise attack was believed to have stood a good chance of destroying their ships either in port (which would presumably have seen the surrounding city destroyed with them) or on the open waters, and because a firm commitment from the United States to engage in worldwide sea warfare would have reduced its importance to British survival.[73] In order to prevent the meeting grinding to a halt, Alexander and Sandys were invited to produce a list of questions for the Radical Review to answer, mostly regarding how the Navy could justify its current budget, with an additional question relating to the possible effects that guided weapons might have on existing naval and air forces.[74]

The next meeting made little progress, and Alexander sent everybody away before the summer recess to consider what they could put into the field under re-calculated budget ceilings. Frustrated by inter-service disagreements threatening to derail the entire review, Sandys wrote directly to R. A. Butler, the Chancellor of the Exchequer, suggesting that expenditure could be reduced even further than everybody seemed to imagine. He made no attempt to conceal the fact that spending reductions would prove 'extremely painful', and even 'humiliating to our national pride', but he thought that it was feasible to reduce spending by an extra £50 million to £100 million on the proposed June budget, and he offered a 'very tentative' plan for allocating resources that saw the Navy receive a 21 per cent share of defence expenditure compared to the Army and Air Force taking 35 per cent each. He predicted that this would see the Admiralty 'no doubt say that this involves the mutilation of the Navy and that it is wholly unacceptable', but he nevertheless felt that 21 per cent was 'quite as much and probably more than can be justified' if naval warfare was to

be seriously downgraded in accordance with the policies put forward in his June memorandum.[75]

By going over the heads of his colleagues, and appealing directly to the Chancellor, Sandys was taking a bold gamble in trying to influence the debate. Had Butler taken his advice then the government might have been forced to think even more radically, enabling his policy preferences to have come to the fore; but his intervention could easily have seen research and development spending curtailed, killing off the programmes he considered vital to Britain's future security. The Chancellor appears to have been unmoved by the appeal, but Sandys was provided with a new impetus in August when the Soviet Union exploded what they claimed was a thermonuclear weapon. It was still a relatively small device, and nowhere near as powerful as the successful American test of November 1952; but fears that the Soviet Union had mastered the process would have consequences for strategic policy-making, particularly since this Soviet weapon was small enough to potentially be delivered by aerial bombardment, unlike the vast installation the United States had first used to verify its technology.[76] Unfortunately for Sandys, when the Radical Review was revived after the summer recess the debate remained stuck to the same lines.

The Second Phase

When the Radical Review resumed in October, the Defence Research Policy Committee stirred the conflict between Sandys and the Navy with a report analysing the likely effects of restricting the research and development budgets for the Ministry of Supply and the Admiralty. It predicted that unless savings could be found elsewhere, the Navy would struggle to introduce 'any new item', and that existing programmes on anti-submarine warfare, anti-mining operations, and torpedo counter-measures would all be impaired. This was unwelcome news for both parties, as this was everything Sandys wanted the Navy to do within his new strategic framework. For the Ministry of Supply, which was facing a 14 per cent cutback in its research and development funding, reductions were going to 'hurt and to hurt very badly'. The report listed a number of programmes which would have to be cancelled in order to meet the planned reductions, including the N.A. 39, as well as a number of bomber projects.[77] McGrigor said that the Admiralty, unlike the Ministry of Supply, had to take a 'realistic' view of research and development, and thought that ending the N.A. 39 programme would prove 'highly dangerous' for the Navy and for Britain.

Denied an 'efficient Strike aircraft', the country would be no match for the Soviet Union at sea. Dickson was similarly concerned about the effect of research and development cuts on his bombers, suggesting that 'less serious' reductions might be found in 'front line forces'.[78] McGrigor had urged his colleagues to unite against cutbacks in June, and now the Air Force and the Navy had started to find some common ground at the expense of the Army; but their projects were still under threat.[79]

Before Sandys was given the chance to defend Ministry of Supply allocations, McGrigor called the Chiefs of Staff together. They knew that the Radical Review was not progressing in accordance with their strategic priorities, but they had accepted the need to go through with it as a 'mechanical exercise'. Now that the government had 'seriously departed' from their 1952 recommendations, as well as those of the Brook Committee, the Chiefs of Staff had to consider whether policy was being determined 'in accordance with their views'. If not, their reservations would have to be formally registered, and it was felt that it might also have been necessary to 'arrive at a clear understanding of the constitutional position of the Chiefs of Staff in this matter', which meant reminding the politicians that the Chiefs of Staff were there to advise on all military matters, and that their advice was not to be dismissed lightly. John Baker, the Vice Chief of the Air Staff, agreed to some extent, but said that they could not establish a definitive position until the politicians had assembled a more coherent policy. Harold Redman, the Vice Chief of the Imperial General Staff, was firmly with McGrigor. He said that the War Office had only ever seen the Radical Review as a mechanical exercise, and that the Chiefs of Staff should 'emphasise their reservations' when the time was right. Neville Brownjohn of the Ministry of Defence added his support, and an agreement was reached to make it clear that, despite their association with the Brook Committee report on which the Radical Review was originally based, they would not collectively endorse it. It was also agreed that they would re-affirm their commitment to *Global Strategy*, and make it known that they felt 'most uneasy' about the latest developments, in particular the 'special consideration now being given to hot war preparedness under the specific heading of survival'.[80]

Sandys was given the chance to defend his policy preferences when the politicians met with the Armed Forces in November. When James Thomas, the First Lord of the Admiralty, informed the meeting that the Navy could not accept the 'very serious Naval consequences' that a budget ceiling of £1650 million would mean, Sandys went on the offensive.[81]

He said that 'any rational system of strategic priorities' would prioritise research and development funding for the Ministry of Supply, and that if extra money were to be made available it should have been spent 'on Medium Bombers and certainly not on the Fleet'.[82] Thomas defended a strong Navy with the same arguments Sandys had used in favour of a powerful and independent nuclear capability, referring to a memorandum he had written that argued the importance of Britain contributing towards any overwhelmingly American naval presence in order to have a 'voice in the employment of these forces'. Equally important was his belief that by giving up aircraft carriers 'In the eyes of the rest of the world we would cease to be a major naval power.'[83] In spite of this tricky sentimental appeal, Sandys was able to convince Alexander that 'further consideration' of naval spending was required, before trying his luck and attacking their cruisers before the meeting was brought to a close.[84]

By this point Alexander was beginning to waver, coming round to the idea that any defence policy determined by Treasury limits would be 'far from satisfactory', as well as backing the Navy on the retention of aircraft carriers.[85] In an attempt to maintain the momentum of the Radical Review, the various departments were once again asked to submit detailed proposals for future defence policy. Perhaps sensing a softening in the Ministry of Defence position, inter-service rivalries began to make their influence known. The Admiralty submitted a lengthy defence of aircraft carriers and their 'essential and not uneconomical' role as an important part of the deterrent, as well as appealing for a fleet 'worthy of a nation whose greatness is founded upon and whose survival depends on sea-borne trade'.[86] The Air Ministry, on the other hand, asked whether it was a good idea to 'lock up £40 million of capital in a fleet carrier that can be sunk with one bomb', especially when 'The Russians' decision on whether to risk a war will depend on the air and land situations and not whether they think they can starve us out by sinking shipping.'[87]

The memorandum supplied by Sandys was once again a comprehensive document, this time going much further than his June contribution in making his belief in the inexorable dominance of unmanned weaponry much clearer. This may have been because, as it reminded its readers, his previous recommendations for prioritising the opening phase had been accepted by Churchill. He may also have decided, having experienced the negative reactions from the Service Ministers and the Chiefs of Staff, that it was worth forcing the issue. His policy ideas were never adopted at this

point; but it is worth quoting his opening summary at length, because it would be revived in 1957 as the entire basis of his solution to providing Britain with a long-term, cost-effective defence policy.

Having accepted the Treasury spending limits, and reiterated his desire to prioritise the 'decisive opening phase', he wrote that 'all other dangers are secondary' compared to aerial attack, because the introduction of long-range rockets meant that the 'prospects of providing any effective protection against air attack are continually diminishing'. Even with improved fighter and guided-weapon defences, enemy attacks would always find a way through, allowing them to 'inflict upon us fearful casualties and devastation'. These were all well-established points, and would not have altered existing priorities; but he added a caveat. Even if Britain could eventually mount a respectable defence against manned bombers, he suggested that by the time this was established the Soviet Union would most likely have developed ballistic missiles that could deliver nuclear warheads into London from firing points in East Germany. The other departments had not even factored such developments into their thinking, but here Sandys looked beyond the narrow timescale preferred by the government and Chiefs of Staff. What is more, he was willing to take those thoughts to their natural conclusions, writing that 'we have no means of defence whatsoever' against 'attack by long-range rockets', the practical effect of which meant that 'we cannot any longer protect our people in the event of war'.[88]

Sandys argued that 'we must henceforth put the emphasis not so much on defences as upon deterrents', and the implication of this point had the effect of taking his June priorities further still. If the rise of unmanned weaponry would make it impossible to protect Britain, then the 'decisive opening phase' was now truly decisive and planning for the assumed secondary phase of 'broken-backed' warfare was not only frivolous, but literally worthless. There could not be a second phase if Britain was attacked with the latest technologies. With this in mind Sandys pressed for a complete re-allocation of resources:

> We must therefore press ahead with the creation of a powerful bomber force, and the manufacture of atomic and thermo-nuclear weapons. We shall not have enough British-made atomic bombs to conduct even the most limited operations for at least five years. As an interim measure, we should ask the Americans to provide us with a small number of bombs out of their enormous stockpile.

> At the same time, we must develop long-range weapons of our own, either ballistic rockets of the V-2 type or flying guided missiles.[89]

He wrote that these programmes could be paid for with reductions in Army and Navy allocations, since a properly equipped Army of more than eight divisions was probably going to be unaffordable in the long-term anyway, and not having to plan for a second phase of warfare naturally reduced the Navy's standing. The opening statement finished by urging the government to plan for 'peace rather than defence', which meant 'build[ing] up offensive air power and atomic weapon production'.[90] He elaborated on the likely effects of a Soviet attack from the air, which now 'might knock Britain out in the first fortnight, if not in the first few days', and how guided missiles would prove to be the best defence against Soviet bombers; but this latter point was qualified with a section on long-range rockets, claiming that

> It is known that the Russians have for some years been developing long-range ballistic rockets. They have been employing numerous German scientists and technicians, many of whom had previously worked at Peenemünde and other German experimental establishments.
>
> It is known that the Russians have perfected the German war-time V-2 rocket and may have put it into quantity production. This could carry a warhead of about one ton and would have a maximum range of about 220 miles.[91]

This brought Sandys back to the Second World War, and his fears of devastation through rocket attack. Writing that the Soviets were known to be working on a rocket with a 35-ton thrust motor that could deliver a nuclear warhead into London from East Germany by 1956, as well as a device boasting a 100-ton thrust motor that promised an even longer range and a greater payload, his words recalled his papers from almost a decade ago. He attempted to hammer the point home by reflecting on his experiences in the Second World War, the memory of which would have been clear to Churchill, and offered a concise recollection of his struggle against unmanned German weapons:

> Against attack by long-range ballistic rockets we have as yet no means of defence whatsoever. Once they have been launched we know of no method of diverting or destroying them. They can probably be fired from mobile launching gear transported by rail or road. The firing points, therefore,

> would offer unprofitable targets for counter-bombing. In the last war we were able to bomb experimental establishments and factories in Germany where the V-2 was being developed and manufactured, with the result that the rocket attack was delayed until the intended launching area in Northern France had been overrun by our troops. But, since we are at peace with Russia, no similar action to forestall attack is now open to us.[92]

Thus Sandys' wartime memories, which had themselves been altered by his reflection on them over time, officially made it into his policy proposals. The Nazi scientists were still the enemy, working for another totalitarian power, and preparing the onslaught they failed to complete ten years earlier. In addition to this, Sandys made the important point that prioritising deterrence over defence was particularly vital for Britain due to the Western democracies' unwillingness to contemplate preventative war. Because Britain could not keep its defences 'in a state of war-time readiness year in and year out', the Soviet Union held the initiative in being able to launch a surprise attack when it most suited them. Therefore, even with improved fighter defences, the protection of British cities was becoming less and less likely: 'The conclusion to be drawn is surely clear. If we no longer have the means of protecting ourselves in war, we must increasingly concentrate our energies and resources upon preventing it.'[93]

He went on to defend the prospective medium bomber fleet on deterrence grounds, as well as noting the utility of bombers as the 'most flexible of all weapons in our armoury', not least for their ability to sink large naval vessels; but it was as part of the nuclear deterrent that they were most valuable. This required, he said, that the British nuclear weapons programme be 'stepped up to the utmost extent', since air forces not equipped with them were 'inefficient and wasteful'. Nuclear weapons or not, British medium bombers were still only seen as a short-lived threat to the Soviet Union. In 1953 it was thought that the Soviets lagged behind in the development of defensive guided weapons, which suggested that the V-bombers would have stood a fair chance of breaching their defences. But Sandys did not expect this to last. He believed that if the Soviets developed defensive guided weapons, or even supersonic interceptors, then the V-bombers would prove hopeless if sent to attack targets deep into enemy territory. He predicted that this would be the case by 1960 at the earliest, and that this left Britain with two choices. One was to lengthen the lives of the V-bombers by equipping them with self-propelled bombs. The other was to develop 'ballistic rockets of the V-2 type'. The former was ruled out

as a temporary solution. These modifications could be easily countered with improved defences, especially those based in satellite nations between Britain and its targets in the Soviet Union, and Sandys probably only mentioned them in order to write them off. To support his favoured option he once again called upon the projections he made in November 1944:

> In the field of guided missiles, we have up to present concentrated attention mainly upon defensive weapons. While maintaining this effort, we should now in addition give equal attention to the development of missiles for use in offensive rôles. This is an extremely urgent matter. We are already a long way behind both the Russians and the Americans in the development of long-distance bombardment weapons. If we neglect this any longer, we may well, in ten years' time when piloted bombers are becoming obsolescent, find ourselves without any means whatsoever of conducting counter-offensive air operations.[94]

This was quite an incredible statement. Sandys was proposing in 1953 that Britain should have started taking practical steps towards basing its ability to wage nuclear war entirely on unmanned weaponry, even though the country was yet to fully incorporate free-falling atomic bombs into its armoury. There had previously been some consideration given to offensive guided weapons, but this was going far beyond what anybody else in a prominent policy-making role had suggested. The reviews of 1947 and 1950 had shown some appreciation of unmanned weapons technology, but by 1952 they were seen merely as potentially valuable weapons for air defence, with the Chiefs of Staff equating a desire to avoid 'prohibitive loss to the attacker' with the 'right types of aircraft … and other scientific aids'.[95] In October 1953 the Chiefs of Staff had agreed 'in principle' to protect the funding allocated for the development of unmanned weaponry, but there had been no suggestion of embracing them to the extent that Sandys wished to, and there is little to indicate that the idea formed any substantial part of establishment thinking.[96]

These were the policy recommendations that the Ministry of Defence had deemed 'revolutionary', and which would still prove controversial several years later as Sandys attempted to implement them as Minister of Defence. Recognising that Sandys was putting these ideas forward in 1953 is vitally important in any attempt at making sense of his period at the Ministry of Defence, as well as the nature of the defence debates in Britain during this decade, and where the central tenets of Sandys'

personal belief system sat within them. His contributions to the policy-making process during the defence review of 1957 can only be properly understood when taking these recommendations as Minister of Supply into account. This reinforces the idea of him possessing a consistent set of policy preferences formed by his experiences of the Second World War that led to the formation of a coherent strategic concept based upon his belief that there could be no effective defence against the descendants of the unmanned weaponry that had confounded him a decade earlier.

Reaction

Whilst official thinking appeared to have gone backwards, Sandys had consistently looked towards the long-term. Unfortunately for him, the entire nature of British defence policy was not going to be drastically altered on the back of Ministry of Supply initiatives, and his colleagues restricted the discussion to more manageable questions. Head accused Sandys of having paid too little attention to overseas commitments in order to put all of his efforts into deterrent weapons and the task of surviving the opening phase, and, although he tried to argue that his planned strategic reserve would fill the gaps, he was unable to dispute the accuracy of Head's wider charge.[97]

The memoranda were discussed on 27 November, by which time the Chiefs of Staff had once again let it be known that *Global Strategy* was the correct basis for defence planning. They also singled out Sandys for his 'valuable and far-reaching proposals', but witheringly noted that they 'differ in some respects from accepted strategic policy'.[98] Churchill and McGrigor debated the new priorities, with the former taking his cue from Sandys and arguing that land-based bombers could attack submarine bases and lay mines much more effectively than the Navy could, and Sandys drew attention to the 'considerable rocket development' taking place in the Soviet Union as a way of emphasising the need to fund a genuine deterrent, which he said aircraft carriers were not.[99] Churchill was clearly leaning more towards Sandys' position on aircraft carriers, but he also could not bear to run the Navy down. Recalling his own experiences of the Second World War, he hesitated to make a decision without another review of naval aviation.[100]

This bought the Chiefs of Staff some valuable time, which in retrospect can be said to have sunk the Radical Review. McGrigor had previously sought to unify his colleagues against budget reductions, and in December

he came to a private understanding with Dickson about the future of naval aviation.[101] What was more, when the Radical Review restarted in January 1954, Alexander had firmly distanced himself from Sandys' position. It is not clear what had caused him to lose faith, but rather than focus on strategic matters, which would have carried less weight with Churchill, who was still committed to prioritising the opening phase, he instead began to stress the expected '*political consequences*' (original emphasis) of Sandys' ideas. These were thought to include a loss of service morale, controversy at home owing to 'traditional affection and support for the Royal Navy', and the loss of influence on United States naval planning. Alexander also thought that Britain should retain at least one heavy aircraft carrier as a contingency. It did not have to take on a strike role, but it could carry out lighter duties until the time came for it to do so.[102] The Admiralty sensed this shift and began to question his plan to 'retain heavy Carriers, but not allow us to use them'. They wanted Alexander to confirm his shift towards their position, and they did so by asking whether he wished to oversee the loss of British influence over American policy, jeopardise British involvement in the North Atlantic Treaty Organization (NATO), sacrifice strategic flexibility, and baffle international opinion for a relatively minor reduction in spending. They also reversed his argument and applied it to the Air Force; after all, why was it okay for Britain to rely on the United States at sea but not depend wholly on its nuclear deterrent?[103]

The critical decision as far as the Sandys' time at the Ministry of Supply was concerned was taken at a February meeting which Sandys was unable to attend due to illness. McGrigor made a passionate defence of the need to be able to destroy an enemy fleet, as the Navy 'had traditionally done from the days of Sir Francis Drake at Cadiz', which meant the N.A. 39 had to go ahead in order to give them a nuclear strike capability. Thomas supported him with 'political arguments' such as the loss of influence on American policy, and Churchill, despite repeating his belief that land-based aircraft would eventually carry out 'everything which naval strike aircraft claimed to do', was all but won over. He deferred a decision on the N.A. 39 and agreed to keep two heavy carriers in commission. Seeing as these carriers would have required aircraft at some point, the decision on the N.A. 39 was essentially made. Sandys had lost.[104]

Churchill had been swayed by the arguments relating to American policy, often put to him directly by the Admiralty. Grove also suggests that, whilst Churchill was 'anticarrier and antinavy' by the end of the review process, albeit due to his concept of naval warfare being one of 'dread-

noughts rather than carriers', everybody—himself included—knew that he was no longer capable of 'ramming through an unpopular program of carrier cuts on his own authority'.[105] One man who might have been capable of ramming through an unpopular programme was Sandys, and it is widely accepted that it was only his falling ill at this decisive moment that prevented him seeing the Navy reduced in size and status.[106] With Sandys on the sidelines at this critical point, the Admiralty began to win the argument, standing firm and mounting counter-attacks against the prevailing Air Force-friendly narrative. Sandys made something of a last stand in March, going above his colleagues' heads again and advising Butler to 'err on the side of cutting defence expenditure too much than too little', and reminding him that long-term savings could only be accomplished through a 'reassessment of the relative importance of the roles of the three services'.[107] But it was too late. McGrigor was successful enough in his defence of naval functions to have a section included in the 1954 Defence White Paper that read: '[I]f no decisive result were reached in this opening phase, hostilities would decline in intensity, though perhaps less so at sea than elsewhere, and a period of "broken-backed" warfare would follow'.[108]

Whilst still attaching significant weight to Sandys' absence, Baylis has also described the postponing of a decision on the N.A. 39 as having reflected the uncertainty of Ministers who were hesitant to follow the 'June Directive' through to its logical conclusions. This, he writes, was largely due to a collective 'lack of expertise in strategic matters' that made them 'reluctant to impose their ideas on the Chiefs of Staff'.[109] Yet, just a month after the 1954 White Paper had made its way through the House of Commons, the government reopened the Radical Review when Churchill assembled a committee to discuss the manufacture of a British thermonuclear weapon. The Chiefs of Staff were unwilling to comment formally until they had finalised their report on the issue, but Sandys, perhaps sensing an opportunity to regain momentum, struck first. In a May meeting between the Cabinet and the Chiefs of Staff he called for quick decisions on the basis that 'major items of equipment' could take up to three years to introduce, and returned to his calls for a reassessment of priorities. If thermonuclear weapons multiplied the destructive power of aerial warfare, then the logic of his June and November recommendations became even more apparent, and he was unequivocal in his support for a British weapon:

> Our ability to put up an effective defence against air attack was decreasing and we ought, therefore, to concentrate on measures calculated to prevent war rather than on measures of defence, which were rapidly becoming obsolete. We must have the power to retaliate. In particular, we should secure supplies of hydrogen bombs, from the United States or from our own production; and we must have enough bomber aircraft to carry the hydrogen bombs at our disposal. The next stage of development would be the ballistic rocket, against which there was no foreseeable form of defence.[110]

He then informed those present that his American counterparts had been in contact with the Ministry of Supply to suggest a measure of collaboration between the two countries on the construction of these ballistic rockets, with a combined effort proceeding on the basis of Britain concentrating on a medium-range weapon and leaving the United States to develop an intercontinental weapon.[111] Sandys had held preliminary discussions in the previous December on this issue with Charles Wilson, the United States Secretary of Defence (1953–7), and now set out for Washington for further talks.[112]

Whilst Sandys was away, the Chiefs of Staff published their updated advice. They reported that the world situation had been 'completely altered' by thermonuclear weapons with 'no theoretical limit' to their power, and they had determined that 'More than ever the aim of United Kingdom policy must be to prevent war.'[113] This would have pleased Sandys, as would the belated recognition that the 'ballistic rocket threat' would eventually render any conceivable system of air defence obsolete. The report also did little to downplay the threat posed by thermonuclear weapons, and even admitted that Britain may 'receive such damage from nuclear bombardment in the opening days of a war that it cannot continue to function as a main support area'. When it stated that British strategic policy should be to 'possess the means of waging war with the most up-to-date nuclear weapons', in tandem with a policy of containing communism, it would have appeared to most that the Chiefs of Staff had taken Sandys' recommendations on board without reservation.[114]

On the other hand, the report did not go into any real depth about the functions of each service under this revised policy. It was suggested that the protection of sea communications and minesweeping operations would be accorded a lower priority, and instructed the Admiralty to undertake another review of its functions; but its suggestion that deterrence was wrapped up with 'our position as a world Power' was loose enough to

satisfy the naval lobby, since many of their arguments had stressed the connection between British status and a powerful surface fleet. By the same token, the new position on air defence was not carried through to its logical ends, and the Chiefs of Staff maintained that Britain required an 'efficient fighting force, [that] satisfies public opinion and demonstrates to the Russians that an attack against this country would require a substantial effort on their part', as if even a handful of thermonuclear weapons, whether delivered by manned or unmanned weapons systems, would not have constituted a 'substantial effort' when their own calculations suggested that just ten bombs dropped on ten cities would have killed twelve million people.[115]

In the United States, Sandys was impressed by tours of experimental guided weapon establishments, and a joint *communiqué* was issued promising further cooperation between the two countries. When he arrived back in Britain he told the press that he was 'hopeful' that the talks could prove useful in developing 'these vitally important new weapons', but no formal agreement had yet been reached.[116] Having done so, he immediately reported to Churchill that in Washington he had met Eisenhower in secret, where he had been told that 'in the event or threat of war, the United States intended to allocate a certain number of atomic bombs to Britain', and that all of their planning was proceeding on that basis.[117] Sandys said he had pointed out to Eisenhower that refitting British planes to carry American weapons would be difficult at short notice and requested detailed information on their 'external dimensions and fittings'. This was something Churchill had previously asked for, and now Eisenhower agreed that providing this information would be necessary, albeit whilst reminding Sandys that all of this was dependent on finding a way around the Atomic Energy Act of 1946 (McMahon Act), which prohibited the United States from sharing its nuclear technologies.[118] Regardless of these practical difficulties, Sandys believed this to have been the first time the President, or anybody in a senior policy-making role, had given a definite promise to supply Britain with atomic weapons in wartime.[119]

The Cabinet Defence Committee gave the thermonuclear bomb project the go-ahead on 16 June after a recommendation from the Chiefs of Staff and the Cabinet followed with their support a month later; but this ongoing process had led to the possibility of a renewed attempt at reducing spending when the Chiefs of Staff were asked to consider the effects of thermonuclear weapons on British policy.[120] The prospect of British thermonuclear weaponry put a renewed emphasis on strategic bombing,

which brought supposedly settled matters back into the spotlight. The Navy was quick to suggest that increasingly destructive warheads meant that the Air Force required fewer bombers to meet its targets (something which Sandys had pre-emptively warned against).[121] He threw the Ministry of Supply behind the V-bomber programme on the basis that, despite working on an agreement for closer cooperation with the United States, it remained 'essential that we should have under our own control in war the means of attacking effectively those targets which we considered of prime importance'.[122] The Navy made these arguments as well, and, although willing to make concessions on minesweeping and manpower under the new strategic outlook, it insisted on keeping its carriers.[123]

Two of Sandys' last acts as Minister of Supply brought his interests together. Firstly, the Chiefs of Staff circulated a report on air defence that recommended slight reductions in fighter strength; suggested that the Soviets would not be able to attack with 'surface-to-surface ballistic missile[s] with an H-head' until at least 1960; and said anti-aircraft guns were now all but pointless except in protecting against low-level attacks on early warning systems, although the report did concede that public opinion might necessitate the retention of a token force.[124] In the meeting that debated the report, Sandys said that 'Ministers should consider the likely trend further ahead', since there was no telling what solutions could be found to even the ballistic missile problem. He felt the Soviet Union would possess a viable missile threat before 1960, which meant greater emphasis needed to be placed on the development of similar weapons in Britain.[125] His second act brought the carrier issue back into his sights. In the latest attempt to solve the question, another committee was set up, this time under Philip Cunliffe-Lister, Secretary of State for Commonwealth Relations. Cunliffe-Lister had been Secretary of State for Air during the rearmament programme that took place before the Second World War and he was joined by Sandys and Nigel Birch, previously of the Air Ministry.[126] The Navy made its case against what it considered to be a deliberately biased panel, and it came as no surprise to them when this group reported in November that continuing to finance naval aviation 'appears to impose a burden disproportionate to the results' as part of their proposals to scale back the Navy.[127]

Sandys' involvement in the defence policy-making process ended in October when he was moved to the Ministry of Housing and Local Government, and his replacement at the Ministry of Supply, Selwyn Lloyd, was more appreciative of the defence McGrigor was once again

forced to make of his aircraft carriers.[128] The same reshuffle had seen Alexander replaced by Macmillan, who felt that he could not justify an unpopular campaign to decimate the Navy in return for relatively small savings.[129] The 1955 Defence White Paper he would eventually deliver therefore went on to describe the aims of British policy as 'impressing on a potential enemy that a sudden attack even with nuclear weapons would not be conclusive', and allocated resources, albeit 'on a lower priority', for 'continuing operations after the initial phase, particularly at sea'.[130] The doctrine of 'broken-backed' warfare had survived the Radical Review and the Navy was looking forward to its nuclear strike role.

Conclusion

In December Churchill sent a note to members of the Cabinet that he had prepared for Britain's representatives at the NATO council which opened by referring to 'Defence by Deterrents' as the 'only sane policy' for Britain.[131] Churchill discussed the possibility of the United States launching a 'forestalling' attack on the Soviet Union, which he felt was unlikely, and of the Soviet Union attempting something similar. This outcome, as well as being 'more grievous', was 'less improbable'. Consequently, Churchill believed that the West had to ensure its nuclear superiority was 'expanded, improved, and varied' in order to make it clear that any surprise attack would be met with 'immediate retaliation'.[132] This he was certain 'would make the Deterrent effective except in the case of lunatics, or dictators or plotters in the kind of position of Hitler in his final phase'.[133] He had refused to follow Sandys' recommendations fully during the Radical Review, and he used this note to credit 'conventional forces' as playing a 'vital part in our security'; but here Churchill was effectively circulating Sandys' central arguments of June and November 1953.[134] Sandys had never written the Army and the Navy out of British defence policy, but he had unashamedly put his faith in deterrence through nuclear striking power as the 'only sane policy' well before Churchill was willing to admit as much so bluntly, and also far in advance of the Chiefs of Staff reaching much the same conclusions.

Whether Sandys' policy preferences would have been practical at the time is difficult to judge, but it is clear that he had formulated something approaching a coherent strategic vision that was radically different to that of the Chiefs of Staff. Equally clear is the influence of his Second World War experiences on this vision, with his memoranda at times resembling

copies of his wartime reports on the German unmanned weapons threat. His attitude towards what he considered to have been the inevitable shift from atomic to thermonuclear weapons is also indicative of the rigidity associated with personal belief systems that come to be relied upon to make sense of uncertain scenarios. Peter Hennessey has described the internal debates about developing a British thermonuclear weapon as having been so wide-ranging that he considers 1954 to have been the 'pivotal year for all the nuclear-related aspects of the secret state'.[135] Yet Sandys never appears to have been anything other than completely certain that Britain not only needed thermonuclear weapons, but that it could depend on them.

Throughout the Radical Review process, Sandys had not shown any reluctance to defend his ideas against supposed expert opinion, nor had he shied away from taking his observations to their logical conclusions. Perhaps strengthened by his memories of the Second World War, Sandys was unafraid of challenging what he saw as the cosy consensus of the military and scientific elites, and his departure from the defence policy-making process saw the lack of this self-belief in his successors allow the defence debates between the services and the Treasury to return to familiar territory as a succession of Defence Ministers followed Macmillan, who only lasted six months himself before being promoted to Foreign Secretary. None of them lasted a full year. The effect of this was to eliminate any chance of radical approaches to long-term decision-making.[136] Without the stability Churchill and Alexander had brought to the defence policy-making process, which the Radical Review had for a while promised to benefit from, successive Ministers of Defence were unable to properly reform British defence policy. It was only after the shock of the Suez Crisis that a serious attempt to rethink defence was made when Macmillan, who had passed through the Ministry of Defence (and recognised its weaknesses), tasked Sandys with finally setting defence policy on a sustainable footing, and gave him considerably increased powers to do so.

Notes

1. 'Defence Policy and Global Strategy: Report by the Chiefs of Staff, 17 June, 1952'; The National Archives, Kew, London; CAB 131/12, D. (52) 26.
2. French, *Army, Empire, and Cold War*, p. 159.

3. Neville Brownjohn to Harold Alexander: 23 November, 1953; DEFE 7/2352.
4. The working chapter title 'Denationalisation of Steel Industry, Rocket Development & Nuclear Energy' gives some indication as to what Sandys considered to have been his most important projects; *Sandys Memoir*, p. 18; the closed files of particular interest are *SUPP 16/25: Radical Review of Defence Expenditure and Strategy (1953–1954)* and *SUPP 16/30: Atomic Weapons and Warheads (1952–1956)*. These may contain insights into how Sandys functioned within Ministry of Supply frameworks, but two separate Freedom of Information requests in early 2014 yielded only claims from the National Archives that the government had misplaced them.
5. N. Piers Ludlow, author of Sandys' entry in the *Oxford Dictionary of National Biography*, writes that 'Sandys's reputation as a critic of appeasement was sometimes later overstated'; Ludlow, N. P., 'Sandys, (Edwin) Duncan, Baron Duncan-Sandys (1908–1987)', *Oxford Dictionary of National Biography* (Oxford University Press, 2004; online edition, January, 2008).
6. *Sandys Memoir*, pp. 2–6 and 2/F/2.
7. Hansard HC vol. 301, cols. 595–597 (2 May, 1935).
8. Hansard HC vol. 301, col. 611 (2 May, 1935); Hansard HC vol. 302, col. 1486 (31 May, 1935).
9. Hansard HC vol. 324, col. 1398 (7 June, 1937); Hansard HC vol. 301, cols. 598–611 (2 May, 1935); although generally loyal to Churchill, he was still capable of distancing himself from him when it suited his immediate political concerns; Thompson, N., *The Anti-Appeasers: Conservative Opposition to Appeasement in the 1930s* (Oxford: Clarendon Press, 1971), p. 24 and 198; Parker, R. A. C., *Chamberlain and Appeasement: British Policy and the Coming of the Second World War* (London: Macmillan, 1993), p. 187 and 289; Charmley, J., *Churchill: The End of Glory–A Political Biography* (London: Sceptre, 1995), p. 356; Olson, L., *Troublesome Young Men: The Rebels Who Brought Churchill to Power in 1940 and Helped to Save Britain* (London: Bloomsbury, 2007), p. 76.
10. *Sandys Memoir*, 13/A/1.
11. John Ramsden has written that the party leadership 'had quite a fight to stop this idea going through'; Ramsden, J., *The Age of*

Churchill and Eden, 1940–1957 (London: Longman, 1995), p. 144.

12. Aldrich, R. J. 'OSS, CIA and European unity: The American Committee on United Europe, 1948–1960' in *Diplomacy & Statecraft*, Vol. 8, No. 1 (1997), pp. 184–227.
13. Letters of introduction from Churchill opened most doors on the continent, and he was apparently left largely to his own devices in organising Churchill's level of involvement. In doing so he was typically assertive. On one occasion Churchill sent him a draft of his speech, and the unhappy Sandys wrote him a new one. When Churchill asked for his original speech, Sandys told him he had torn it up, forcing him to deliver an amended version of Sandys' speech; sections 13/B, 13/C, and 13/D in *Sandys Memoir*; see also: Onslow, S., *Backbench Debate within the Conservative Party and its Influence on British Foreign Policy, 1948–1957* (London: Macmillan, 1997), p. 18; Jenkins, *Churchill*, p. 814; Beloff, M. 'Churchill and Europe' in Blake, R. and Louis, R. Wm. (eds.), *Churchill* (Oxford: Oxford University Press, 1993), p. 449.
14. Onslow, *Backbench Debate*, p. 23; Sandys saw a European Army as the answer to the question of how to rearm Germany and ensure their support for the Cold War, without a 'revival of German militarism' that would frighten the French; Hansard HC vol. 480, col. 1417 (13 November, 1950); see also: 'Duncan Sandys Gives Grim Warning'; *Streatham News*: 8 December, 1950 in DSND 18/2.
15. Some historians have credited the friction in Anglo-American relations following the Suez Crisis with forcing a renewed drive for independence in defence policies; Baylis, J. 'British Defence Policy' in Baylis, Booth, K., et al., *Contemporary Strategy II: The Nuclear Powers* (London: Croom Helm, 1987), p. 154; Groom, *British Thinking About …*, p. 133; when Anthony Eden launched the post-Suez review of defence policy in December 1956, he made it clear that 'We should not wish to become entirely dependent on the United States for supplies of atomic weapons, warheads or fissile material', and said alternatives pursued 'either alone or in co-operation with other countries' ought to be considered; 'Long Term Defence Policy: Note by the Prime Minister, December, 1956'; PREM 11/1778 PR (56).

16. 'Speech to the Streatham Committee–16 July, 1947'; DSND 16/2.
17. John Turner writes that the 'Munich legend', the idea of a small band of rebels consistently opposing appeasement, 'was soon to become the creation myth of Macmillanite Conservatism'; Turner, J., *Macmillan* (London: Longman, 1994), p. 123; see also: Crowson, N. J. 'Conservative Parliamentary Dissent Over Foreign Policy During the Premiership of Neville Chamberlain: Myth or Reality?' in *Parliamentary History*, Vol. 14, pt. 3 (1995), pp. 315–316.
18. The 'whole fabric of the State in its political, economic and cultural aspects differs fundamentally from those with which we are acquainted elsewhere'; 'Duncan Sandys Report: July/August, 1931'; DSND 1/2.
19. *Sandys Memoir*, 2/E/1; 'Speech to the AGM of the Streatham Conservative Association—22 March 1948'; DSND 16/2.
20. 'Speech to the AGM of the Streatham Conservative Association–22 March, 1948'; DSND 16/2.
21. *Sandys Memoir*, 2/E/1.
22. 'Speech at St. Leonards Parish Hall'; DSND 16/2.
23. Ibid.
24. 'Our Only Chance. We Must Have a Showdown Now, Before Russia Gets the Atom Bomb'–November, 1948; DSND 16/2.
25. Ibid.
26. 'Duncan Sandys Gives Grim Warning'; *Streatham News*: 21 July, 1950 in DSND 13/16/1.
27. Geoffrey Best writes that 'by the end of the 1940s words like "showdown" had disappeared from the vocabulary he (Churchill) had been using about the Soviet Union since 1944, to be replaced by words like "deterrent" and "co-existence"'; Best, G., *Churchill and War* (London: Hambledon and London, 2005), p. 222.
28. *Streatham News*: 8 December, 1950 in DSND 18/2.
29. Ibid.
30. 'The President's News Conference of 30 November, 1950' in Truman, H. S., *Public Papers of the Presidents of the United States: Harry S. Truman—Containing the Public Messages, Speeches, and Statements of the President, January 1 to December 31, 1950*

(Washington: United States Government Printing Office, 1965), p. 727.

31. Ibid.; when news of this filtered through to the House of Commons, Prime Minister Clement Attlee went straight to Washington for crisis talks with Truman; Hansard HC vol. 481, col. 1440 (30 November, 1950); the Chiefs of Staff met to discuss the issue, where John Slessor, the Chief of the Air Staff, warned against allowing MacArthur to attack the Chinese mainland because it would probably have drawn the Soviet Union into the war; DEFE 4/38, C.O.S. (50) 189th meeting: 30 November, 1950.
32. Gaddis, J. L., *The Long Peace: Inquiries Into the History of the Cold War* (Oxford: Oxford University Press, 1987), p. 115–122; Nina Tannenwald writes that Truman had an 'abhorrence of atomic weapons, seemingly derived from his experience of having used them on Japan', and that he 'recoiled at the thought' of using them in Korea; Tannenwald, N., 'Stigmatizing the Bomb: Origins of the Nuclear Taboo' in *International Security*, Vol. 29, No. 4 (Spring, 2005), p. 18.
33. One of the clearest examples of this was a November, 1949, speech in the House of Lords by Hugh Trenchard: 'What is the atom bomb but superior fire power?', and suggested that attacking the Soviet Union with them would save lives in the long run, even if it meant killing '20,000,000 people in a month'; Hansard, House of Lords Debates, HL vol. 165, cols. 427–428 (9 November, 1949); an early American report concluded that 'The atomic bomb has not altered our basic concept of the strategic air offensive but has given us an additional weapon'; 'The Implications of the Atom Bomb for the Size, Composition, Organization, and Role of the Future Air Force: 23 October, 1945' cited in Reardon, S. L. and Williamson, S. R., *The Origins of U.S. Nuclear Strategy, 1945–1953* (New York: St. Martin's, 1993), p. 29; there does seem to have been a crude division on this issue between the military men and the politicians, with even Churchill expressing regret when Truman's successor, Eisenhower, sought to entrench the normalisation of nuclear weaponry through what Nina Tannenwald has called a 'deliberate and intensive policy to "conventionalize" atomic weapons'. Eisenhower had been the Supreme Commander of the Allied

Expeditionary Force in the Second World War but Churchill blamed Dulles, who he hated, for the policy; Jenkins, *Churchill*, p. 874; Tannenwald, 'Stigmatizing the Bomb', pp. 23–24; Gaddis also credits Dulles with having 'persuaded an initially skeptical Eisenhower', but admits the policy 'appealed to Eisenhower on both military and economic grounds'; Gaddis, *The Long Peace*, pp. 123–124.

34. Baylis puts these earlier misconceptions down to a lack of access to direct and related sources; Baylis, *Ambiguity and Deterrence*, pp. 148–152; Clark and Wheeler also stress continuity; Clark and Wheeler, *The British Origins of …*, pp. 160–161; Baylis and Alan Macmillan have suggested that the 1952 review influenced the 1957 Defence White Paper with its stress on nuclear weapons; Baylis, J. and Macmillan, A., *International Politics Research Papers, Number 13: A Reassessment of the British Global Strategy Paper of 1952* (Aberystwyth: Nuclear History Program, 1993), pp. 9–10; CAB 131/12, D. (52) 26.
35. 'But if the United Kingdom, with its great experience, its technical skill, and its highly developed communications system, is unable to devise an effective defence for such a small area, the task is all the more difficult for the Soviet Union'; CAB 131/12, D. (52) 26.
36. Ibid.
37. 'The Defence Programme: Report by the Chiefs of Staff, 29 September, 1952'; CAB 131/12, D. (52) 41.
38. 'Defence Programme: Report by the Chiefs of Staff, 31 October, 1952'; CAB 131/12 D. (52) 45.
39. The test took place on 1 November in the Pacific, but in Britain it was still 31 October; Ovendale, R. (ed.), *British Defence Policy Since 1945* (Manchester: Manchester University Press, 1994), p. 97.
40. 'Record of a Meeting held in Sir Norman Brook's Office: 12 November, 1952'; DEFE 7/2349.
41. CAB 134/810, D.P.(O) 1st Meeting: 16 January, 1953.
42. DEFE 4/59, C.O.S. (53) 6th Meeting: 16 January, 1953.
43. Ibid.
44. CAB 134/810, D.P.(O) 1st Meeting: 16 January, 1953.
45. Naval reductions 'can only be temporary and are wasteful and dangerous' and, along with the depletion of seemingly every

resource required to put a modern navy to sea, would have left Britain with a 'quite inadequate' force by the middle of the 1960s. The Air Force would also suffer 'certain reductions in quality'; 'The Future Course of Defence Expenditure, 20 May, 1953'; CAB 134/809, D.P.(M) (53) 2.

46. The Chiefs of Staff had submitted another report on 10 June, 1953, that reaffirmed their commitment to viewing the security of sea communications as 'essential to the implementation of our strategy'; 'Outline of United Kingdom Intentions in War: July to December 1953, 10 June, 1953; DEFE 5/46, C.O.S. (53) 270.
47. 'Review of Defence Expenditure: Memorandum by the Minister of Supply, 15 June, 1953'; DNSD 4/1/1.
48. 'Review of Defence Expenditure: 15 June, 1953'; DNSD 4/1/1; CAB 134/809, D.P.(M) (53) 1st Meeting: 18 June, 1953; French has said that this idea would prove influential over the coming years, eventually being implemented by Sandys as Minister of Defence; see: French, D. 'Duncan Sandys and the Projection of British Power after Suez' in *Diplomacy and Statecraft*, Vol. 24, No. 1 (2013), pp. 41–58.
49. 'Review of Defence Expenditure: 15 June, 1953'; DNSD 4/1/1.
50. 'Review of Defence Expenditure: 15 June, 1953'; DNSD 4/1/1.
51. '"CROSSBOW" Committee: Seventeenth Report by the Chairman, 23 November 1944'; DSND 2/3/6.
52. 'Review of Defence Expenditure: 15 June, 1953'; DNSD 4/1/1.
53. The first of these weapons, Blue Danube, was delivered to the Air Force in November 1953, but the Vickers Valiant did not enter full service until January 1955.
54. Lawrence Freedman provides a summary of American policy-makers 'anxieties' about this weapon which it was said 'carries much further than the atomic bomb itself the policy of exterminating civilian populations', and which was described as being inherently genocidal, 'beyond any military objectives', and having more in common with 'very great natural catastrophes' than known armaments; Freedman, L., *The Evolution of Nuclear Strategy* (Third Edition) (Basingstoke: Macmillan, 2003),

pp. 60–64; see also: Miscamble, W. D., *George F. Kennan and the Making of American Foreign Policy, 1947–1950* (Princeton: Princeton University Press, 1992), pp. 298–308; for Britain see: Hennessey, P., *The Secret State: Preparing for the Worst, 1945–2010* (London: Penguin, 2010), pp. 52–61; Churchill 'clearly brooded over the consequences of relying on deterrence and even wondered whether his Cabinet colleagues were capable of shouldering the awesome burden of responsibility which the new weapons had brought'; Baylis, *Ambiguity and Deterrence*, p. 179.

55. Sandys' archive contains drawings by William Penney, the Director of the Atomic Weapons Research Establishment, that illustrated how a thermonuclear weapon worked. The precise date of the drawings is not listed, but they were done in 1952, so may have pre-dated the American test. They also have '5MT' (5 Megatons) written on them. Whilst smaller than the first American device, this would have meant a weapon some 200 times as powerful as the first British atomic weapon exploded on 3 October 1952; DSND 15/4.
56. 'Review of Defence Expenditure: 15 June, 1953'; DSND 4/1/1.
57. 'Review of Defence Expenditure: 15 June, 1953'; DNSD 4/1/1.
58. 'Scale and Nature of Air Attack on the United Kingdom: 19 January, 1953'; CAB 134/813, D.T.C. (53) C.
59. Guided Weapons Advisory Board: 8th Meeting, 28 January, 1953; WO 195/12197; working on the assumption that Soviet rockets would be 'similar' in performance to the V-2, but equipped with an atomic warhead, the board concluded that there was 'no one technical factor' that made defence impossible. Unfortunately their leading solutions were impractical, amounting to a radar system that offered a four-minute warning and predicted the point of fall (although this latter aspect 'might not be possible' if more than one rocket was launched), and an interceptor rocket carrying a 300 lb. fragmenting warhead; 'Anti-V.2 Defence: Report by the Guided Weapons Advisory Board'; this file is undated, but the National Archives catalogue lists it as 1952; WO 195/12081.

60. 'Modern aircraft are capable of repeated sorties and presumably we shall not drop all our atomic weapons in the first few days of a war'; 'Ministerial Committee on Defence Policy: Memorandum by the Secretary of State for War, 15 June, 1953'; CAB 134/809, D.P.(M) (53) 4.
61. 'Review of Defence Expenditure: 15 June 1953'; DNSD 4/1/1.
62. He suggested that the Admiralty take over the duties of coastal protection as to 'encourage a reduction in costly carrier-borne aviation and greater use of shore-based aircraft'; Ibid.
63. 'Ministerial Committee on Defence Policy: Memorandum by the First Lord of the Admiralty, 17 June 1953'; CAB 134/809, D.P.(M) (53) 7; this was matched by an internal Ministry of Defence response to an earlier draft of Sandys' memorandum that described his central argument, 'that the task of winning the cold war consists primarily of building up deterrents', as 'questionable', citing recent experience in Korea as an argument against it. It also said Sandys was 'going too far' on the future of the Navy and that his Air Force policies would actually increase expenditure 'considerably'; Internal memorandum: 10 June 1953; DEFE 7/2350.
64. CAB 134/809, D.P.(M) (53) 1st Meeting: 18 June 1953.
65. Ibid.
66. It is with this in mind that Clark and Wheeler have characterised the Radical Review as an exercise intended to 'deny legitimacy to Army, and especially Navy, preparations for a long nuclear war'. The Radical Review certainly sought to bring focus to some of the more vague commitments contained in the 1952 review, but the decision to plan for a short war was not taken until the politicians had taken hold of the process following unsatisfactory progress in the first half of 1953; Clark and Wheeler, *The British Origins of…*, pp. 183–184; see also: Baylis, *Ambiguity and Deterrence*, p. 175.
67. DEFE 4/63, C.O.S. (53) 78th Meeting: 24 June, 1953; DEFE 4/63, C.O.S. (53) 80th Meeting: 26 June, 1953; John Fisher, who had served as First Sea Lord from 1904 to 1910, and again from 1914 to 1915, had written half a century before that 'The finality of a modern sea fight—once beaten, the war is finished. But beaten on land, you can improvise fresh armies in a few weeks! You can't improvise a fresh navy; it takes four years!'; let-

ter to Lord Esher, 23 April, 1904 cited in Marder, A. J. (ed.), *Fear God and Dread Nought: The Correspondence of Admiral of the Fleet Lord Fisher of Kilverstone: Volume I–The Making of an Admiral, 1854–1904* (London: Jonathan Cape, 1952), p. 311.

68. Dickson agreed with this approach, speculating that the proposed reductions might not provide any savings anyway; DEFE 4/63, C.O.S. (53) 80th Meeting.
69. Grove, E., *Vanguard to Trident: British Naval Policy Since World War II* (London: Bodley Head, 1987), pp. 92–93.
70. Ibid., p. 96; Baylis has described it as the result of a compromise, citing Slessor as saying 'we had to put it in for the sake of little Rhoddy McGrigor because otherwise if there was no broken-backed war then there was no case for keeping a large Navy!'; Baylis, *Ambiguity and Deterrence*, p. 144; Moore, however, has attempted to look beyond 'concentrating on the commanding heights of the inter-service debates', and believes that, not only was 'broken-backed' warfare a policy with 'considerably intellectual and bureaucratic foundation', but that it was influenced largely by the 'vivid memory of the Battle of the Atlantic'; Moore, R., *The Royal Navy and Nuclear Weapons* (London: Frank Cass, 2001), pp. 65–66; because they were behind much of the technology driving these changes in warfare, these debates had already been played out in the United States. There the United States Navy had reacted to the establishment of an independent air force in 1947, which monopolised American atomic weapons strength along similar lines to what Sandys proposed for the Royal Air Force, by commissioning five massive flush-deck aircraft carriers from which to launch atomic bombing raids. Following a bitter, sometimes public battle between the services, the programme was cancelled just days after construction began on the lead ship when the government decided that the proposed carriers would prove to be an expensive duplication of Strategic Air Command functions; Hammond, P. Y. 'Super Carriers and B-36 Bombers: Appropriations, Strategy and Politics' in Stein, H. (ed.), *American Civil-Military Decisions: A Book of Case Studies* (Birmingham: University of Alabama Press, 1963), pp. 467–495.
71. CAB 134/809, D.P.(M) (53) 2nd Meeting: 17 July, 1953.
72. Ibid.

73. Ibid.
74. 'Further Examinations: Note by the Minister of Defence, 23 July, 1953'; CAB 134/809, D.P.(M) (53) 10.
75. Sandys to R. A. Butler: 23 July, 1953; DSND 15/4.
76. The American device, with a blast yield of 10.4 megatons, had been an 82 ton platform built in order to validate the scientific concepts behind thermonuclear weaponry. The Soviet weapon was much smaller, but only produced a blast yield of 400 kilotons. In addition to this, it was a single-stage weapon, not capable of being reproduced in larger form like all 'true' thermonuclear weapons. The Soviet Union did not test their first 'true' thermonuclear weapon until November 1955 and even this was well behind contemporary American weapons in terms of its explosive power.
77. 'Radical Review–Research and Development Programmes: Report by the D. R. P. Committee, 15 October, 1953; DEFE 10/32, D. R. P./P. (53) 45.
78. DEFE 4/65, C.O.S. (53) 119th Meeting: 20 October, 1953.
79. DEFE 4/63, C.O.S. (53) 76th Meeting: 22 June 1953.
80. DEFE 4/66, C.O.S. (53) 121st Meeting: 27 October, 1953.
81. Thomas had been Financial Secretary to the Admiralty during the Second World War, where, according to one biographer, he got 'his first opportunity of showing that attachment to the Royal Navy which was the ruling passion of his life'; Rose, K., 'Thomas, James Purdon Lewes, Viscount Cilcennin (1903–1960)', *Oxford Dictionary of National Biography* (Oxford University Press, 2004; online edition, May 2006).
82. 'Radical Review: 10 November, 1953'; ADM 1/24695.
83. 'The Role of Aircraft Carriers: Memorandum by the First Lord of the Admiralty, 9 November 1953'; ADM 1/24695, R. D. P/P (53) 28.
84. 'Radical Review: 10 November, 1953'; ADM 1/24695.
85. 'The Radical Review: Memorandum by the Minister of Defence, 12 November, 1953'; CAB 134/809, D.P.(M) (53) 12; 'Naval Air: Memorandum by the Minister of Defence, 16 November, 1953'; CAB 134/809, D.P.(M) (53) 13; Sandys 'took an immediate liking' to Alexander during the Second World War, writing that he 'combined courage, wisdom and modesty, with all the other qualities of true leadership'; *Sandys Memoir*, 6/A/1.

86. 'The Role of Aircraft Carriers: Memorandum by the First Lord of the Admiralty, 14 November, 1953'; CAB 134/809, D.P.(M) (53) 14.
87. 'Defence Priorities: Note by the Secretary of State for Air, 17 November, 1953'; CAB 134/809, D.P.(M) (53) 16.
88. 'Defence Policy and Expenditure: Memorandum by the Minister of Supply, 20 November, 1953' (the printed copy is dated 19 November, but 20 November has been hand-written in); DSND 4/1/1.
89. 'Defence Policy and Expenditure: 20 November, 1953'; DSND 4/1/1.
90. Ibid.
91. Ibid.
92. Ibid.
93. Ibid.
94. Ibid.
95. With the Second World War still an obvious influence on proceedings, the 1947 review had predicted that the Soviets would be in a position to use atomic weapons as early as 1956, and that with German assistance they would by this point have developed 'rockets, [and] pilotless aircraft'; 'The Overall Strategic Plan: Report by the Chiefs of Staff, 22 May, 1947'; reproduced in Lewis, *Changing Direction*, pp. 370–385; Similarly, the 1950 review had recommended that planning 'includes provision for the day when the manned bomber is no longer usable'; 'Defence Policy and Global Strategy: Report by the Chiefs of Staff, 7 June, 1950' reproduced in Hamilton, K. A. and Yasamee, H. J. (eds.), *Documents on British Policy Overseas: Series II, Volume IV–Korea, June 1950–April 1951* (London: HMSO, 1991), pp. 411–431; CAB 131/12, D. (52) 26.
96. 'Radical Review–Research and Development Programmes: Report by the Defence Research Policy Committee, 15 October, 1953'; CAB 134/809.
97. CAB 134/809, D.P.(M) (53) 5th Meeting: 23 November, 1953.
98. 'United Kingdom Defence Policy: Memorandum by the Chiefs of Staff, 27 November, 1953'; CAB 134/809, D.P.(M) (53) 17.
99. CAB 134/809, D.P.(M) (53) 6th Meeting: 27 November, 1953.

100. He thought 'numbers of smaller ships' would be needed for anti-mine and anti-submarine duties, conceding one of the main principles of 'broken-backed' warfare to the Admiralty, and using the 'lessons of World War II' to support his point; Grove, *Vanguard to Trident*, p. 95.
101. Whereas Slessor was on record as having little regard for aircraft carriers, Dickson came round to the Admiralty view that they were essential aspects of the deterrent and appeared genuine in doing so. In 1948 Slessor said that the Navy remained of 'vital importance', but only as an 'anti-air and anti-submarine navy'. He expanded on this by adding that battleships and aircraft carriers were 'irrelevant in these days … I believe the fleet action to be as dead as the Dodo … I think the carrier or heavy ship that floats about within easy range of future shore-based aircraft will be blown out of the water. And, when people speak as I have heard them do, of using carriers to extend the range and penetration of a future bomber offensive I think they are allowing their thought to roam in a world as remote from reality as the other side of Alice's looking-glass'; *Some British Strategic Problems: Lecture at the United States National War College, Washington, April 1948* in Slessor, J., *The Great Deterrent: A Collection of Lectures, Articles, and Broadcasts on the Development of Strategic Policy in the Nuclear Age* (London: Cassell & Company Ltd, 1957), pp. 78–79; Baylis, *Ambiguity and Deterrence*, p. 168; Grove, *Vanguard to Trident*, p. 107.
102. 'Naval Air: Note by the Minister of Defence, 26 January 1954'; CAB 134/809, D.P.(M) (54) 1.
103. 'Naval Air: Note by the First Lord of the Admiralty, 27 January, 1954'; CAB 134/809, D.P.(M) (54) 2; that idea had been tentatively raised back in July, when Dickson attempted to defend a bomber force larger than what had been recommended in the 1952 review; Clark and Wheeler, *The British Origins of* …, p. 189; Grove, *Vanguard to Trident*, pp. 105–106.
104. CAB 134/809, D.P.(M) (54) 2nd Meeting: 26 February, 1953.
105. Grove, *Vanguard to Trident*, pp. 114–115.
106. Baylis, *Ambiguity and Deterrence*, p. 169; Clark and Wheeler, *The British Origins of* …, p. 200; Grove, *Vanguard to Trident*, p. 115; Navias, *Nuclear Weapons* …, p. 83.

107. He even included an old Second World War report from his previous Ministry of Supply stint, detailing how he managed to 'comb the tail' of the Middle East Command and reduce its administrative staff by 30,000 men; Sandys to R. A. Butler: 18 March 1954; DSND 15/4.
108. *Statement on Defence 1954* (London: HMSO, 1954).
109. Baylis, *Ambiguity and Deterrence*, p. 177; Malcolm Chalmers has suggested that the Navy benefitted from its 'enormous symbolic importance in British politics', and that there was an institutional unwillingness to make significant alterations to naval policy by 'those reared to administer an Empire based on British naval supremacy'; Chalmers, M., *Paying for Defence: Military Spending and British Decline* (London: Pluto Press, 1985), p. 64.
110. CAB 134/808, D.P. (54) 2nd Meeting: 19 May, 1954.
111. Ibid.
112. Before leaving he wrote to Wilson setting out his wishes for the standardisation of smaller guided weapons, economic concessions in terms of dollar payments, and for measures aimed at avoiding a 'duplication of effort'; Sandys to Charles Wilson: 29 May, 1954; DSND 4/6.
113. 'United Kingdom Defence Policy: Report by the Chiefs of Staff, 1 June, 1954'; CAB 134/808, D.P. (54) 6.
114. Ibid.
115. CAB 134/808, D.P. (54) 6.
116. 'Guided Missile Development', *Times* [London, England] 15 June 1954: 6. *The Times Digital Archive.*
117. Sandys had met Eisenhower during the Second World War in North Africa, and had also done so in secret to avoid running into the local French authorities. When their representative turned up at Eisenhower's office, Sandys was forced to hide in the bathroom 'for half an hour on the only available seat!'; *Sandys Memoir*, 6/F/1.
118. Sandys to Winston Churchill: 15 June, 1954, reproduced in 'Supply of Atomic Bombs by the United States: Note by the Secretary of the Cabinet, 18 June, 1954'; CAB 134/808, D.P. (54) 8.
119. In the next Defence Committee meeting, after Sandys had recommended a formal agreement on the basis that Britain would

stand to benefit far more from it than the United States would, the Secretary of State for Air confirmed that he too had been contacted by his counterparts expressing a willingness to share the information Britain needed to use their weapons; CAB 134/808, D.P. (54) 8; CAB 134/808, D.P. (54) 4th Meeting: 24 June, 1954.

120. 'Hydrogen Bomb Research and Production in the United Kingdom: Memorandum by the Chiefs of Staff, 9 June 1954'; CAB 134/808, D.P. (54) 7; the decision to go ahead, and to keep the programme secret, was made in CAB 134/808, D.P. (54) 3rd Meeting: 16 June, 1954; see also: Grove, *Vanguard to Trident*, p. 110; Hennessy, P., *Cabinet* (Oxford: Basil Blackwell, 1986), pp. 136–137.
121. Clark and Wheeler, *The British Origins of* …, p. 200; CAB 134/808, D.P. (54) 1st Meeting: 4 May, 1954.
122. CAB 134/808, D.P. (54) 6th Meeting: 6 July, 1954.
123. CAB 134/808, D.P. (54) 12; CAB 134/808, D.P. (54) 6th Meeting: 6 July, 1954.
124. 'Air Defence of the United Kingdom: Memorandum by the Chiefs of Staff, 7 July, 1954'; CAB 134/808 D.P. (54) 13.
125. CAB 134/808, D.P. (54) 6th Meeting: 9 July, 1954.
126. Grove, *Vanguard to Trident*, p. 111.
127. Ibid., pp. 111–112; Clark and Wheeler have suggested that McGrigor and the naval establishment were spurred on by the 'motivated bias' and 'obvious opposition' of the Committee; Clark and Wheeler, *The British Origins of* …, pp. 201–202.
128. This was 'perhaps his finest hour'; Grove, *Vanguard to Trident*, pp. 113–114.
129. A loose note in Macmillan's archive reads 'The Board of Admiralty feel strongly about this matter and are stating their reasons in a separate paper. My predecessor, Field Marshal Lord Alexander, gave his support to the Admiralty view … With my limited experience I find it difficult to give any instructive opinion, but I am bound to say that two considerations weigh with me: (a) the trouble we shall have with N.A.T.O.; (b) the absurdity of these ships going about half armed—the full overhead and half the effect'; the Papers of Harold Macmillan, the Earl of Stockton (1894–1986); Bodleian Library, Oxford; MS. Macmillan dep c. 295, f. 129.

130. *Statement on Defence 1955* (London: HMSO, 1955).
131. 'Notes on Tube Alloys, 1954: Note by the Prime Minister, 14 December, 1954'; DSND 15/4.
132. Ibid.
133. Ibid.
134. Ibid.
135. Hennessey, *The Secret State*, p. 52.
136. In April 1955 Lloyd replaced Macmillan and attempted to oversee a Long-Term Defence Programme, but he was gone by Christmas, promoted to Foreign Secretary to replace Macmillan who headed to the Treasury.

CHAPTER 4

The 1957 Defence White Paper

In October 1959, following Sandys' departure from the Ministry of Defence, the Central Office of Information sent him a revised version of the brief biographies that they maintained for each member of the government, inviting him to edit it as he thought necessary. The document described his time at the Ministry of Defence as having involved 'planning the reorganisation of Britain's defence forces in the light of developments in modern warfare and the need to relieve the strain on the nation's economy'. Sandys did not object to this section, but when it said that he was 'largely responsible' for the White Paper of April 1957, he made sure to remove the word 'largely' and give himself sole credit.[1] Given that, as will be explained in the following sections, Sandys was removed from the Ministry of Defence because his policies proved difficult to implement (and also because he had alienated most of those involved in the defence policy-making process), this minor incident reveals a remarkable unwillingness on Sandys' part to distance himself from what many perceived as his failures.[2] Why, then, was Sandys willing to associate himself with his alleged failures this time? Especially failures that were much more public and potentially damaging to his career?

Richard Powell was Permanent Secretary to the Ministry of Defence during the Sandys years, and, although he later described the White Paper as having been a 'joint effort' between the two of them, he credited Sandys as having been the 'undoubted leader all the way through'. Similarly, whilst he claimed that Sandys never 'contributed all that much which was original to the content of the White Paper', the 'references to ballistic missiles

L. Betts, *Duncan Sandys and British Nuclear Policy-Making*,
DOI 10.1057/978-1-137-58547-9_4

and to missile defences instead of fighters and bombers' were something that he 'certainly put in himself'.[3] It is between these two points that most historical appraisals of the 1957 White Paper tend to fall. Historians have tended to adhere to the view that Sandys offered little in the way of original thinking, choosing instead to emphasise continuity, albeit whilst giving him credit for bringing together existing trends and trampling all opposition in doing so.[4] His contribution is framed in reference to what Groom said about the White Paper having 'above all' been 'motivated by notions of economy and prestige', which helped to establish a pervasive belief that culminated in Navias' claim that Sandys' 'prime intention' was 'securing savings through manpower reductions' without properly considering the balance between conventional and nuclear weaponry.[5]

This interpretation acts to diminish the notion of Sandys having possessed any sort of strategic concept, or coherent set of policy preferences, and the deficiencies of this approach can be seen in Baylis citing a July 1957 article by Slessor in support of his contention that the White Paper merely 'reflected the culmination of past endeavours'.[6] The Slessor article in question claimed that the White Paper introduced 'no basic revolution in policy, but merely rationalizes and (probably for the first time) explains in admirably intelligent form tendencies which have long been obvious'.[7] This does indeed point towards a degree of continuity; but this statement has to be qualified by an important contextual point, which is that Slessor had been every bit as devoted to the decisive superiority of nuclear striking power as Sandys. Indeed, had it not been for his sentimental attachment to manned bombers, it is likely that Slessor would also have been an equally enthusiastic proponent of unmanned weaponry, so it should be noted that what Slessor had considered to be 'tendencies which have long been obvious' did not necessarily correspond with the accepted wisdom prevalent within the Ministry of Defence or on the Chiefs of Staff Committee.[8]

Sandys enjoyed unprecedented powers at the Ministry of Defence, supported by a directive from Macmillan giving him more control over the policy-making process than any of his predecessors. He was still unable to unilaterally make significant alterations to the Armed Forces, but, by paying particular attention to what had been his main areas of concern during the Radical Review, it can be shown how, in spite of 'other variables' attempting to force him off course, Sandys consistently adhered to his well-developed belief that Britain should prioritise the opening phase of any future global war, and that all strategic calculations had to be made with the inexorable progress of unmanned weaponry firmly in mind. In

looking at Sandys' first few months at the Ministry of Defence, up until the publication and defence of the White Paper, this chapter seeks to demonstrate how he brought the policy preferences he had developed from his experiences of the Second World War into a policy-making process over which he exerted a significant degree of control, and how this enabled him to lay the foundations for his later attempts at making his 1953 recommendations a reality.

The Political and Strategic Context

In the immediate aftermath of the Suez Crisis, Prime Minister Anthony Eden had expressed his wish that Britain should attempt to become less dependent on the United States for its nuclear capabilities. However, this was just one aspect of his post-Suez defence review, and his December 1956 note on 'Long Term Defence Policy' had also recommended that Britain work from the 'principle of smaller Forces equipped with fully up-to-date weapons'.[9] Suez had dealt a devastating psychological blow to British superpower pretentions, but some historians have also argued that the British public were becoming tired of the continued failure to devise an economically sustainable defence settlement. This was particularly frustrating at a time when new technologies were supposed to provide the answer, and Head, who had recently become the Minister of Defence after Walter Monckton had resigned in opposition to Eden's Suez policies, was instructed to begin working with the Service Ministers on yet another defence review.[10] The Chiefs of Staff had actually commissioned a minor review of policy, just weeks before the Suez Crisis began, that had attempted to address all aspects 'short of Global War', but this was quickly dropped in favour of an updated report that acknowledged 'some tasks which have previously been regarded as commitments cannot now be met'.[11] It is difficult to gauge from the official documents how the Chiefs of Staff felt about another review. Where Dermot Boyle, the Chief of the Air Staff, thought that it was 'inevitable' that Britain would no longer be able to meet its strategic requirements after another round of spending reductions, it is hard to say whether this constituted an attempt to embrace new realities or to fix his position against them. Louis Mountbatten, the First Sea Lord, demonstrated no such ambiguity. His hostile response was accompanied by a reminder to those present that it was the duty of the Chiefs of Staff to keep the politicians on track.[12]

When Eden unexpectedly resigned on 9 January 1957 owing to ill health, he was succeeded by Macmillan, the Chancellor of the Exchequer. Macmillan had effectively killed off the Radical Review as Minister of Defence with his reluctance to expend valuable political capital taking bold decisions whilst Churchill was in no real state to support him, but this is not to say he was a reactionary in defence matters, or that he was somebody who took national defence lightly.[13] Having been seriously wounded at the Battle of the Somme, not only did Macmillan see military experience as a necessity for the successful formulation of related policy, he believed that it was central to being a 'complete man', and his memoirs contained sharp personal criticisms of previous Conservative Prime Ministers who were deemed by Macmillan to have had 'no real understanding of the defence problem'.[14]

Like Sandys, Macmillan had associated himself with Churchill before the Second World War (although he had been a far more determined opponent of appeasement), and had received a job at the Ministry of Supply in 1940 as the new Prime Minister began putting his stamp on the government. Following a brief interlude at the Colonial Office, he came to represent the British government in the Mediterranean Theatre, reporting directly to Churchill, and working closely with Eisenhower and Alexander.[15] He maintained his interest in defence issues over the following decade, often taking to his diary to bemoan the policies of the government in which he served. In May 1952, whilst Minister of Housing and Local Government, he wrote that military spending had to be redirected away from 'useless weapons (like anti-aircraft guns)', and towards the 'new and unconventional weapons by which alone (if war came) we could hope to resist the Russian masses'.[16] In November 1954, having only just been promoted to the Ministry of Defence, he recorded his thoughts on what he considered to be the main problem facing British defence policy:

> I fear that the public will be rather alarmed to discover that we really cannot fight any war *except* a nuclear war. It is quite impossible to arm our forces with *two* sorts of weapons—conventional and unconventional … This means that if the Russians attacked (which is *very* unlikely) with conventional weapons only, in the first instance, we should be forced into the position of *starting* the nuclear war … From a purely military point of view, there is no way out. We should be utterly crushed in a conventional war.[17]

From December 1955 Macmillan had been at the Treasury, and it was there that he had truly come to appreciate the need for spending reduc-

tions in defence. The Air Force became his main target, and as of July 1956 it was his wish to 'abolish Fighter Command (as such) on the grounds that UK cannot be defended even from Bombers. When the Russians have guided missiles, it cannot be defended at all.'[18] This was very much in line with Sandys' policy preferences, but Macmillan had initially wanted Head to continue as Minister of Defence to oversee the review. Unfortunately for the new Prime Minister, Head was unwilling to make the kind of changes required. Unlike many of his colleagues, whose military experiences had been a direct result of the Second World War, Head had been a career soldier with twenty years of Army service to his name, and, as he told Macmillan's official biographer,

> I couldn't do it, that it would be a betrayal of the forces … so I had to resign. Perhaps it was just a neat way of getting rid of me, knowing that I couldn't accept the cuts … I thought the forces would be pleased that I stood up for them, but they weren't; they got Sandys instead, whom they couldn't bear![19]

Macmillan knew from his own time as Minister of Defence, when he had been unable to dictate to the Service Ministries (despite technically outranking them), that he needed somebody willing to confront entrenched opposition in order to make lasting reform possible. He approached Sandys, who recalled that 'Before accepting this very responsible post, I obtained his assurance that he recognised that defence was an indivisible problem, and that the Minister must have effective overall control of the three Services.' Having received these assurances, he went to work, only to immediately find that the Chiefs of Staff had decided to circumvent the Ministry of Defence when circulating their latest proposals, sending them directly to the Cabinet Defence Committee and Macmillan. Sandys could not believe that it was now 'accepted practice' for the Chiefs of Staff to breach protocol in such a manner, which, despite having done likewise as Minister of Supply, he saw as a challenge to the 'whole function and authority of the Ministry of Defence', and mounted his own direct approach to Macmillan in response.[20] He was asked which new powers he would need, and, 'with very few amendments', Macmillan turned his suggestions into a formal directive that gave the Ministry of Defence final say (subject to Cabinet approval) on 'all questions on the size, shape, organisation and disposition of the forces, as well as their equipment and supply, their pay and conditions of service'. This directive also stated that the Service Ministries (as well as the Ministry of Supply) were no longer allowed

to appeal to the Prime Minister directly, forcing them to take their complaints to Sandys, who was also given the power to call upon them and the Chiefs of Staff whenever he wished.[21]

Macmillan might have been re-ordering his government, but the policy-making process had continued along the lines originally set out by Eden, and on 11 January the Joint Planning Staff issued their examination of what the Service Ministries had thus far proposed. Whilst each department had worked in relative isolation in defence of their own interests, the Joint Planning Staff was able to make the implications of their plans clear. The report touched upon familiar issues of prestige relating to colonial matters and NATO deployments, but it also tried to address some of the new realities that Britain faced. For example, it was suggested that 'reduced fighter forces' would rule out the defence of Britain 'as a whole', forcing the government to choose whether to protect bomber bases or defend 'certain centres of population and industry'. Similarly, the 'world-wide' value of the Navy would be put at risk by insisting on maintaining balanced forces in home waters and in the Mediterranean. On the other hand, the report struck a cautious note by accusing the Air Force of being 'coloured by their assessment of the overriding need to continue to produce a significant British contribution to the nuclear deterrent', the burden of which was said to have necessitated reductions in overseas deployments, and making them overly dependent on being reinforced 'quickly by air or by aircraft carrier' in times of crisis.[22]

The Chiefs of Staff decided to develop this report into a formal memorandum for Sandys' benefit, and the Joint Planning Staff presented them with a more detailed version of their findings on 24 January. It began favourably in relation to what Sandys would eventually advocate, claiming that there was 'no effective defence' against nuclear bombardment, and that any counter-threat 'should not be left solely in the hands of the United States'. In addition to this, the Joint Planning Staff made efforts to 'stress that NATO and the deterrent are complimentary', since it was believed that NATO kept the United States interested in Western Europe, and the defence of Britain was said to depend upon the 'Allied Strategic Bomber Force and on the continued cohesion of NATO'. Whilst the Joint Planning Staff made clear their belief that Britain should seek to possess its own nuclear capability, as not to leave the 'ultimate defence' of Britain and British interests to American goodwill, this appeal towards maintaining a strong British presence in NATO was potentially open-ended

enough to be utilised by all three services in defence of their different interests.[23] This would explain why, when asked for their immediate reactions to the report, the Army and Navy were most keen to emphasise this aspect, with Mountbatten taking particular objection to what he thought was the implication that Britain should only contribute the bare minimum to ensure continued NATO cohesion.[24] There was comparatively little discussion about new deployments in the report, which meant that there was little to object to specifically beyond Boyle warning that reductions to Fighter Command constituted a 'serious, calculated risk'.[25] The overarching disagreement came from the Joint Planning Staff adhering to Head's 21 December 1956 directive that the Service Ministers plan on the basis of capping manpower at roughly 450,000. They had cautiously said that this would be just enough to support a 'sound strategy' in defence of British interests, but the Chiefs of Staff wished to distance themselves from a figure that they considered inadequate.[26]

The Chiefs of Staff presented their own report on 5 February, warning Ministers that there were 'no military or strategic grounds which justify considerable reductions', and making it clear that it was only 'in H.M. Government's view' that the economic situation served to justify the 'risks involved'.[27] To make their report work as a mechanical exercise, whilst still making their opposition clear, the Chiefs of Staff stressed that their recommendations represented the absolute minimum required for the defence of British interests 'On military grounds' only. So, whilst the report contained developments on what the Joint Planning Staff had put forward in relation to each service (the Air Force, for example, was still expected to provide sufficient air defence coverage to 'convince the Russians that they could not destroy a worthwhile proportion of the bases for the strategic offensive before the United Kingdom could retaliate'), special consideration was given to the potential political effects of what the government had in mind. These were policies that the Chiefs of Staff felt would 'involve this country in considerable risk, particularly in regard … to our alliances', and the overwhelming conclusion of the report was that the political position of the United Kingdom, both as a Great Power and as a leading member of several defensive alliances, was wholly dependent on its ability to project military power around the world. This report placed the Chiefs of Staff in direct opposition to the government once again, which led them to remind ministers that 'It is our duty to say this.'[28]

The Drafting Process

Sandys' participation in the policy-making process was delayed by a pre-existing commitment for the Minister of Defence to visit the United States to come to some arrangement over Thor missiles and relaxing the McMahon Act.[29] It was only after this that he was able to begin his reforming task, and he started by presenting a 'broad approach' to future defence policy to the House of Commons that assured Members of Parliament that his 'first responsibility is for defence', and that he would not 'slash about indiscriminately' in pursuit of economies.[30] The policy-making process officially began the following week, when Powell informed his colleagues in the Service Ministries that Sandys intended to end conscription and reduce manpower to 380,000, which was followed by a special weekend gathering at Chequers where Sandys sought Cabinet approval for his plans.[31] His 'starting point' had been the 'Government's declared intention to end National Service as soon as practicable', and, in order to accomplish this drastic re-alignment, he simply revisited his previous recommendations, offering a vision of British defence policy where the 'minimum forces necessary' were allocated towards defending British interests overseas so that priority could be given to 'play[ing] our part in preventing world war'. This was to be accomplished by 'creating a British element of nuclear deterrent power', and by contributing only 'sufficient' forces to maintain the solidarity of NATO 'upon which our whole security depends'. Sandys admitted that defending British interests with 380,000 regulars would have involved an element of 'difficulty', but thought that it would be possible provided these 'much reduced forces' were equipped with modern armaments. However, he was also forced to admit that reductions on this scale would 'appreciably affect' British power projection capabilities, which would, in turn, 'inevitably reduce our influence' in alliance decision-making and more general world affairs.[32]

To demonstrate how he intended to make all of this work, Sandys had provided those present with a 'tentative plan' for a new distribution of force. This once again reflected his Radical Review recommendations by including in its projections a 'considerably reduced fleet', as well as a large amount of colonial withdrawal, after which 'only local forces' would remain in several garrisons. Given that his plans were dependent on nuclear striking power, the Air Force was given more attention. He was content that the force of medium bombers, the precise number of which was still to be decided, would form the backbone of the British deterrent for the foreseeable

future, but added a note of inevitability by saying that they would be replaced 'in due course' by ballistic missiles. British-built nuclear weapons were also listed as a definite requirement, although he was happy to accept warheads under United States control until Britain had built up a worthwhile stockpile of its own. This focus on nuclear deterrence also meant that Fighter Command was to be given the 'limited task of protecting our bomber bases only', for which it could afford to lose 200 of its 480 planes (which would also be replaced 'in due course' by unmanned weaponry).[33]

This 'new' approach to protecting the British Isles was confirmed as a suitable basis for defence policy at a 27 February Defence Committee meeting. Macmillan gave Sandys his full blessing, agreeing that even the most severe reductions in manpower 'would be offset by equipping the forces with nuclear weapons', and that Britain could only consider itself a nuclear power if it possessed a 'capacity to make both atomic and hydrogen weapons and the means of delivering them'. Britain remaining a nuclear power was a key issue for Macmillan, and, although he could not conceive of a scenario in which the country would use its nuclear capabilities unilaterally, he added that it was important to 'have within our control sufficient weapons to provide a deterrent influence independent of the United States'. It would have seemed at this moment that Sandys had proven the perfect choice for what Macmillan had in store for British defence policy, but a possible point of divergence emerged at this early stage when Macmillan spoke about the means of delivering British nuclear weapons. He had definitely factored the implications of unmanned weapons development into his thinking, but, with the United States willing to offer Thor missiles to Britain (provided that they retained partial control), Macmillan felt that a British-built missile was not a priority.[34] Regardless of this disagreement, Sandys received the approval of both the Cabinet and the Defence Committee, enabling him to begin working on a detailed framework to be presented to the Chiefs of Staff and Service Ministers.

It was originally hoped that the policy-making process would be over reasonably quickly, as Macmillan had wanted to approve a final draft by 19 March before he set off for Bermuda to properly repair Anglo-American relations with his wartime friend Eisenhower, but there was still no sign of a draft a week into March. The Admiralty blamed the delay on Sandys 'taking a very great interest in every line', and Powell recalled that the White Paper went through 26 printed proofs (and 'an equal number of typed ones') before its eventual publication on 4 April.[35] Many of these do

not appear to have survived in either the official departmental files or in Sandys' personal archive, and his memoirs say nothing about the defence policy-making process; but by analysing what does survive, Sandys' policy preferences can be shown not only to have been an identifiable constant throughout, but to have taken priority over his attempts to reduce overall defence spending.[36]

The first working draft emerged on 12 March, and the Ministry of Defence asked for feedback within two days to produce a more polished draft for the final Cabinet meeting before Macmillan departed for Bermuda. It is impossible to say whether Sandys had deliberately used this draft to make sweeping points in order to establish his negotiating position, or whether it simply represented his thoughts in their most natural form, befitting of his newly increased importance in the policy-making process; but the sections relating to the main pillars of Sandys' belief system—that the opening phase of any future conflict ought to be given priority, and that unmanned weaponry would eventually dominate strategic calculations—remained intellectually consistent across the numerous drafts produced, despite opposition from the Chiefs of Staff and Service Ministers forcing minor textual alterations.

New Strategic Priorities

When Sandys spoke in the Commons on 13 February, he claimed that his position was dictated by the 'realities of today', first and foremost amongst which was the inability of nations to defend themselves against nuclear weapons. This was, he said, an irreversible fact in an age where the type of bombs used against Japan in 1945 were now 'primarily suitable for tactical use by troops in the field', and the best way to avoid the 'catastrophic consequences' of nuclear warfare was to 'concentrate our military effort upon prevention rather than defence'.[37] He clearly identified prevention with maintaining an effective level of striking power, and he spoke about how he expected the government to embrace the 'first British megaton bomb' that was soon to be completed.[38] By making this the central point of his defence review, Sandys was returning to his initially well-received 1953 suggestion that defence expenditure be concentrated 'on those objects which will give the highest return in terms of effective defence'; only now he could call upon the newly strengthened Ministry of Defence to make his policy preferences a reality.

In spite of his relentless focus on nuclear weaponry, Sandys said that 'nuclear air power is not necessarily by itself a fully effective deterrent'. However, this should not be seen as having undermined his previous statements. It was purely political, said in defence of overseas alliances to which he still argued Britain could no longer contribute 'more than our fair share' towards.[39] With such pleasantries covered, he offered a neat summation of his strategic concept that simply picked up where he had left off as the Minister of Supply:

> When we have settled what contribution Britain should make to the deterrent, we have to ask ourselves whether we should, in addition, provide other forces which do not directly contribute to the deterrent but which would be desirable for waging major war should the deterrent fail.
>
> We must, as far as possible, resist the temptation to dissipate our limited resources on forces which in themselves have no deterrent value; for to that extent we should be reducing the contribution we can make to the prevention of war.[40]

Just like in 1953, the nature of these priorities immediately asked questions of the Navy, the future of which would be made clear once the government had decided the 'likely course of a full-scale nuclear war' by answering the following questions:

> How soon after the outbreak of such a war do we think we might expect that shipping across the Atlantic could be resumed? After the initial nuclear attack, would the harbours of Britain and Western Europe still be usable? Have we to assume that when the first all-out atomic phase was over, there would follow a second phase—sometimes described as broken-back war—in which operations at sea would play a prominent part?[41]

In taking his lead from his 1953 strategic priorities of winning the Cold War through 'actual preparations for war', Sandys had raised, and dismissed, the value of 'broken-backed' warfare within the space of a few lines. For him, 'actual preparations for war' meant mobilising the greatest amount of potential striking power, which meant equipping Britain with an effective nuclear delivery system, and doing so regardless of cost.

This also meant a radical break with existing policy, as the strategic priorities laid down in *Global Strategy* had effectively been re-affirmed by Monckton the previous February.[42] The first draft of the White Paper called for an end to planning on this basis by reproducing the ideas Sandys

had first proposed in 1953. The functions of the Armed Forces were to be defined by 'two principal roles'. The first was to 'play their part with the forces of allied forces in preventing world war and in resisting Communist aggression and infiltration', and the second was to 'defend, and preserve order in, British colonies and protected territories'. The first role was naturally listed as the 'more exacting of these tasks', but due to the fact that it was expected to be played out as part of different alliances, Sandys said that Britain did not necessarily require 'forces which are self-sufficient and balanced in all respects'.[43] Taken into consideration alongside the near-identical phrasing incorporated in his 1953 memoranda, the implications of this point are clear (especially since he made no reference to 'broken-backed' warfare as one of the key roles of the Armed Forces).[44]

The feedback Sandys received was almost wholly sceptical. The Admiralty surprised him by making only half-hearted warnings about spending and manpower, but, as had been the case during the Radical Review, their attacks on the political consequences of his proposals were not so reserved. George Douglas-Hamilton (the Earl of Selkirk), the First Lord of the Admiralty, warned Sandys that announcing to the world that Britain intended to cut its Armed Forces by half would 'cause the disintegration of the North Atlantic Alliance'. This would have the practical effect of derailing the entire White Paper, since the draft had described NATO as a vital component of the deterrent, as well as expecting the alliance system to make up for any imbalances. The draft was consequently 'too defensive' for the Admiralty, and they said that they would find it hard to support the idea that 'military and scientific developments justified these enormous reductions'.[45] The Air Ministry echoed much of what the Admiralty had said, even though they stood to benefit from Sandys' proposals, writing that Britain would cease to be a 'leading power' following reductions that were 'startling in all aspects'. 'Default on N.A.T.O.' would inevitably follow such proposals, and the spectre of European military leadership falling into German hands was raised for added effect.[46]

When the Chiefs of Staff met to discuss the first draft, the Air Force and the Army wished to distance themselves from Sandys' manpower targets. The Vice Chief of the Imperial General Staff, William Oliver, claimed that Sandys had produced something 'based entirely on economic considerations and not related to military capability'. Mountbatten was equally worried, repeating what had previously been suggested about the end of NATO, and making the drastic predictions that Sandys would provide 'immense encouragement to the forces of Communism and to those

of Arab nationalism'.[47] The result of this meeting was a note to Sandys informing him that the White Paper 'in its present form' would undermine service morale, and leave Britain's allies 'gravely disturbed'. Worse still, Sandys' strategic priorities were criticised for lacking clarity.[48]

The feedback Sandys had asked for was intended to inform the first formal draft, the third proof, which was to be taken before the Cabinet for general approval. Sandys took little of this criticism on board, producing something that was largely the same as his working draft, the 'broad lines' of which were approved by the Cabinet on 18 March.[49] It was noted that its presentation 'would need careful consideration', but Macmillan was more convinced than the rest of the Cabinet. Some worried that this 'fundamental revolution' in policy would have 'far-reaching effects on our influence in world affairs', but Macmillan was concerned only that the tone of the review might alarm British allies, and 'reflect unfavourably on the record of Conservative Governments since 1952'. He had no major disagreements with what Sandys proposed. He just wanted the White Paper to seem conservative. It could not give the 'impression that the Navy is being handled with special severity', nor could it argue for reductions in manpower without explaining how they would be 'counter-balanced by an increase in atomic strength', so he requested that the opening statement stress a degree of continuity.[50] These criticisms were considered by Sandys, but generally ignored, as were the more specific points raised by the Service Ministries. Even at this early stage, he was conscious of the need to keep the fundamentals of his review intact, and the copy of the third proof contained in his archive has numerous handwritten alterations that appear to hint at compromise whilst actually serving to reinforce his policy preferences.[51]

The Admiralty had briefed Mountbatten that Sandys' defence review was proceeding 'much as predicted', and questioned 'whether it is wise to accept battle on ground of the Minister's own choosing'.[52] Nevertheless, the Chiefs of Staff were still far from happy with what they had seen, so Sandys sent Dickson (the January directive had made the Chairman of the Chiefs of Staff Committee the Chief of Staff to the Minister of Defence) to explain that he was 'anxious to reach an understanding' with them. Dickson told his colleagues that he had done his best to put their case to Sandys, but now he had to put Sandys' case to them. Sandys was said to have divided British defence requirements into two parts. The first addressed the defence of 'purely British interests', and the second related to the contribution that Britain was expected to make towards its various alliances;

both of which could be accomplished with 380,000 regulars.[53] Dickson met the Chiefs of Staff the following day, informing them that Sandys wanted to explain things himself, and suggesting that they split the difference between their respective manpower requirements. Mountbatten saw no way of compromising. He said he would fulfil his constitutional role in helping the Ministry of Defence make an Armed Forces of 380,000 work, but insisted that there was 'no implication that a reduction to this figure had been justified on military grounds by the Chiefs of Staff'. This was a particular concern, since the White Paper repeatedly referred to what 'the Government' believed, which the Chiefs of Staff thought implied that they had a hand in formulating policies lacking in 'soundness'.[54]

Sandys met the Chiefs of Staff to discuss their 'understandable misgivings', assuring them that his reductions would not prevent the Armed Forces from defending British colonies, mounting 'limited overseas operations … in support of the Baghdad and SEATO [Southeast Asia Treaty Organization] alliances', or from making a 'fair contribution' to NATO. However, this 'fair contribution' rested on two points. First, Britain had been doing more than its fair share, so it was time for other NATO members to take on some of the burdens that Britain had carried since the alliance was formed; and second, Sandys' belief that Britain's stake in NATO would not be the 'determining factor' in whether the Soviet Union started a global war or not. This was reportedly explained by Sandys as follows:

> Although he realised that from the purely military aspect NATO forces would not be regarded as enough for safety, in his own view they were sufficient to deter Soviet Russia from starting a nuclear war since she could attain her ends in other ways at much less risk to herself, e.g. by subversion in the Middle East and South East Asia. However, a greater probable danger was the potential commercial threat from Russia since, with her form of Government, she could easily undertake a trade war.[55]

Navias has described Sandys' ideas here as 'somewhat confused', writing that he 'appeared to equate Soviet goals in the Middle East and the Far East with those in Europe', as part of his blurring the lines between the 'careful distinctions between cold, limited and global war' upon which the Chiefs of Staff had always based their recommendations, which he cites as proof that 'what undoubtedly drove Sandys was not so much an explicit strategic formula as much as the issue of financial savings'.[56]

It is difficult to say how well Sandys was able to put his case across to the Chiefs of Staff, or whether he was even willing to engage with them properly; but this is an almost perfect summation of the criticism his ideas had attracted during the Radical Review. He had previously advocated confronting the Chinese over Hong Kong with the threat of general war, and this would appear to have also become his preferred policy for resisting the Soviet Union should it have tried to expand beyond its borders, explaining his supposed inability to correctly understand the strategic priorities the Chiefs of Staff had decided upon. Sandys believed that what kept the Soviet Union within its borders was not localised blocking manoeuvres, but the threat of full-blown nuclear war. Whether these policies were sensible is not our concern. Focus should be placed on the fact that Sandys not only had 'an explicit strategic formula' in mind during this policy-making process, but that he had carried it over from the Ministry of Supply almost to the letter. There can be no doubt that Sandys made difficult decisions regarding the cost and shape of the Armed Forces, as he had during the Radical Review, but it must be recognised that he had arrived at the Ministry of Defence with a coherent strategic vision suitable for a cost-conscious, second-class power, and that he was consistent in his adherence to it.[57]

In a concession to the Chiefs of Staff, Sandys agreed to make some minor amendments in phrasing, but, before he could implement them, the fifth proof went before the Cabinet.[58] He had satisfied Macmillan with a passage defending decisions made by previous Conservative governments, but the rest of the draft attracted familiar criticisms, such as a renewed call for NATO to be given greater coverage to 'avoid any impression of an abrupt departure from earlier defence policy'. What makes this meeting stand out is the unusual direct intervention that Macmillan felt compelled to make. That morning the Chiefs of Staff had met to criticise Sandys for threatening the forces 'available for the defence of the free world' at a time when the menace of communism had 'in no way diminished', and they refused to endorse his planned reductions on military grounds, insisting instead that the White Paper make it clear that reducing manpower to 375,000 was 'dictated primarily by economic needs'.[59] Macmillan had intervened to quell the increasing tension between his Minister of Defence and the Chiefs of Staff, promising to personally draft the relevant paragraphs himself in order to contextualise any reductions 'by referring to our traditional reliance on regular forces, and our declared intention to revert to this practice as soon as possible'.[60]

The sixth proof was circulated on 28 March with a cover note claiming that it contained substantial changes to numerous paragraphs, although Sandys' overall strategic concept remained untouched.[61] When the eighth proof was released on 1 April, a new introduction made reference to British policy being 'determined by her obligation to make her contribution to NATO and other regional alliances as to discharge her own special responsibilities in many parts of the world', but elsewhere Sandys had actually gone back on several important points to strengthen his original concept. The fifth proof had responded to earlier criticism by giving the Armed Forces 'three main tasks'. These were to 'play their part with the forces of Allied countries in deterring and resisting aggression', to defend British interests from localised attack, and to plan for 'limited operations to uphold the rule of law'.[62] The eighth proof saw this latter task merged with the second point about protecting British interests, and still behind the primary task of 'deterring and resisting aggression' in partnership with allies.[63] But it was too late now for significant alterations, and the Admiralty resigned itself to its contents by briefing its officers about what to expect. There was still time for the Chiefs of Staff to expose Sandys for planning to go back on his agreement to distance them and their strategic concerns from the finished product, but the points raised in the 2 April Cabinet discussion, particularly the request to 'give rather more emphasis to the essential role of civil defence', were not going to knock Sandys off course.[64]

The Unmanned Weapons Threat

It appeared that Sandys' new strategic priorities had been accepted, but there was some last minute qualification requested as to what exactly Sandys meant when he used the term 'deterrent'. The Director of Plans at the Admiralty objected to naval power being said to 'not for the most part contribute directly to the deterrent', and the wording was subsequently altered to say that the role of the Navy in global war 'cannot be precisely forecast'.[65] Similarly, the Air Ministry sought to make certain that the White Paper committed Britain to maintaining a contribution to the Western deterrent that was both independent and operationally effective, with a handwritten note in the departmental files saying that possession of an independent nuclear capability was the basis of the 'whole paper'.[66]

It is true that a precise definition of what the British deterrent was expected to consist of was noticeably absent from Sandys' drafts, but his

statements during the policy-making process leave no doubt as to what he expected to form the main body of British nuclear capability. Having opened his February speech in the Commons with the uncontroversial point that the 'basic responsibility of any Government is to protect the lives and independence of its people', Sandys brought his listeners' attention to the 'phenomenal advances in the development of weapons of mass destruction' that had occurred since the Second World War.[67] He attempted to strike a conciliatory tone in inviting the opposition to 'agree that we should not be serving the best interests of the country by seeking to make defence a party political issue', only to then attack the Labour Party for not having developed a supersonic aircraft. Equally unworthy of party political point-scoring was the 'failure of the Labour Government during their six years of office to initiate any research into guided missiles of the long-range ballistic type'. This lack of effective research into unmanned weaponry was even more damaging, and the main reason 'that we are now a long way behind both the Americans and the Russians in that vital work'.[68]

Returning to his 1953 recommendations, Sandys told the Commons that 'However efficient our defences, it is inconceivable that they could provide 100 per cent immunity against air attack' when just 'half a dozen nuclear bombers' could 'cause incalculable death and devastation over enormous areas' with a single raid. This was bad enough when dealing with manned bomber aircraft that were 'difficult enough to bring down', but nothing compared to the threat of unmanned weaponry:

> After the war, the Russians took over the German rocket establishments and compelled German scientists to work for them. There is every reason to believe that the Russians have been developing a much enlarged version of the German V-2 rocket, but with the enormous difference that it would now carry a nuclear warhead. The range of these rockets is probably sufficient to reach Britain from launching points within Soviet-controlled territory. These projectiles would rise to a height of over 100 miles into the stratosphere and travel at speeds of over 5000 miles an hour.[69]

Whilst entertaining the prospect that a defensive solution could eventually be found to weapons of this calibre, Sandys said that it would be 'absurd' to expect such a system to be available in the near future, and he moved on to framing the discussion of air defence with the admission that the 'whole of the British Isles' could not be defended. It was much more sensible

to confine the role of air defence to 'protecting our power of retaliation, upon which the prospects of peace so largely depend'.[70] Sandys was just beginning to expand upon this idea to reallocate fighter defences when Emrys Hughes, the Labour representative for South Ayrshire, shouted 'What about rockets?'[71] Sandys replied that, once the Soviet Union gained the ability to bombard Britain with unmanned weaponry, 'we shall have to consider whether it is worthwhile retaining fighter aircraft at all', but for the time being 'it would be irresponsible to neglect such means as are available to protect our deterrent power'.[72] In the long-term, however:

> [I]t is quite clear—and I agree about this—that ultimately the threat to this Island will come not from manned bombers, but from nuclear ballistic projectiles. It is similarly clear that in the future the effectiveness of our deterrent power will also depend upon the possession by us of these weapons.[73]

The prospect of nuclear ballistic missiles 'must greatly influence our future programme of research and production', and it needed to be determined whether Britain 'should develop more advanced types of fighters and bombers', or accept that 'by the time these more advanced types can be introduced into service, they will have been superseded by rocket weapons, both for the defensive and offensive roles'. When he said that this decision was 'largely a question of one's estimate and assessment of the timetable on both sides', he made his position plain in his next breath, saying 'In any case, it is evident that we must give the highest priority to the development of these new weapons and their introduction at the earliest moment'.[74]

The first draft Sandys had circulated developed this early statement by arguing for British defence policy to be 'radically revised' due to technological development and the emergence of thermonuclear weapons:

> [T]he evolution of rocket weapons has been forging ahead. It is now only a matter of a few years before there will be missiles steered by electronic brains capable of delivering megaton warheads over a range of 5000 miles or more.
>
> These sensational scientific advances in methods of waging war have fundamentally altered the whole basis of world strategy, and make it necessary for all previous defence planning to be revised.[75]

The draft developed well-established Sandys themes, especially the need for long-term planning that could account for rapid technological devel-

opment, which he linked to his section on the nuclear deterrent. Repeating familiar statements about how 'only a dozen' Soviet bomber aircraft 'might well blot out a large part of the population' if they were to penetrate British air defences, he began the passage on why Britain had to 'prevent war rather than prepare for it' by claiming that 'defence has become impossible'. The copy of the draft that found its way into the Admiralty has this line highlighted, whilst the Air Ministry simply crossed it out of theirs.[76] However, the strongest objections came from the Home Office, which informed Sandys that 'catastrophic destruction and unprecedented casualties … does not mean that defence is impossible'. They believed that an element of civil defence planning was required in order to demonstrate to the Soviet Union the 'will to resist'.[77]

The third proof, as it had in relation to the strategic priorities Sandys had recommended, did not make substantial alterations to any of these early statements. It also completely ignored the Home Office. The reference to defence becoming 'impossible' was removed, but the inability of fighter aircraft to offer the 'country as a whole any effective protection' remained, as did Sandys' belief that the 'central aim of military policy must be to prevent war rather than to prepare for it'. The passage on 'missiles steered by electronic brains' that 'have fundamentally altered the whole basis of world strategy' was reproduced in near identical form, albeit with an appeal 'for all previous defence planning to be revised' removed.[78]

The reactions from the Admiralty and the Air Ministry were mixed, but the Treasury was so alarmed that it sent Sandys a comprehensive list of proposed changes, and even asked Macmillan to extend the original White Paper timetable. These mostly concerned themselves with matters of finance, reminding Sandys that the Chancellor was yet to commit himself to funding a British-built missile; but it was also pointed out that the third proof provided 'nothing to enable organised society to survive'. On this the Treasury agreed with the Home Office that Sandys' policy preferences actually undermined the policy of deterrence, adding that plans to reduce the food stockpile served to demonstrate to the enemy that the 'policy of survival is not the one we are pursuing'.[79] These concerns were reflected in the Cabinet, where it was said that the sections covering civil defence needed further attention, 'particularly in the light of the statement that the great cities could not at present be protected against nuclear attack'.[80]

Whilst Sandys noted some of their criticisms on his personal copy, he once again made notes that bolstered his original ideas. His copy of the third proof has 'have fundamentally altered' changed to 'are fundamen-

tally altering', making the statement less definitive. Yet he also made a note in the opening paragraph to make it clear that reform was required on 'economic, scientific and international grounds', rather than 'military grounds'. This implies that technological development, rather than established notions of what Britain was expected to defend, was now a more pressing influence on the policy-making process.[81] Similarly, he crossed out 'fighters cannot give … any effective protection to cities against aerial attack', after the Air Ministry had asked that this be changed to 'complete protection', but a note in the margin of his copy suggests adding 'there is at present no means of protecting' instead.[82] This change might have reassured Fighter Command by suggesting that there would remain a need for a new generation of fighter aircraft, but it actually serves to doubt that even an anti-aircraft defence system based on unmanned projectiles could provide comprehensive coverage. This is supported by an alteration on the next page, where 'air defence must be provided for the nuclear deterrent' is replaced by a claim that the 'country as a whole cannot be protected against nuclear attack'. That this also follows the words 'so largely' being inserted into 'peace depends upon the effectiveness of the deterrent' further confirms Sandys' intentions. The addition of 'so largely' was meant to reduce the importance of the nuclear strike capability in relation to the rest of the Armed Forces, making it clear that air defence would concentrate around bomber bases and rocket sites, restoring its privileged status.[83]

Technological development as a primary consideration was promoted further in the fifth proof, which went into the actual policy sections by stating there was now a 'necessity to re-examine defence policy on economic grounds [that] coincides with the need to do so on scientific grounds'. The reference to 'missiles steered by electronic brains' was gone, but this was made up for with an expanded passage on what technological development meant for British defence policy:

> It has been clear for some time that these sensational scientific advances must fundamentally alter the whole basis of military planning. However, it is only now that the future picture is becoming sufficiently clear to enable a comprehensive reshaping of policy to be undertaken with any degree of confidence.[84]

The less definitive 'are fundamentally altering' had not been used, and the re-written passage on the nuclear deterrent from this fifth proof is a perfect example of Sandys working the criticism he had received into the

revised text whilst, at the same time, changing other parts of the wording to strengthen his original point. This section had incorporated his colleagues' preference for any statements regarding the lack of effective defence to relate to the 'present', but it did so in the following way: 'It must be frankly recognised that there is at present no means of protecting the people of Britain against the catastrophic consequences of an attack with nuclear weapons'. This, along with the line about a mere dozen manned aircraft being able to 'blot out' most of the people in major cities, was referred to as a 'grim fact' in order to retain the definitive nature of his original draft. The idea of a defensive solution being devised in the future was further undermined by Sandys when he added an entirely new paragraph on disarmament. This made it clear that, 'In the long run', it was only through 'comprehensive disarmament' that 'nations can be saved from mutual destruction and mutual ruination', thereby suggesting that, as long as nuclear weapons existed, Britain could never really be protected, completely negating any optimism that might have been introduced by having briefly entertained the possibility that it was only impossible to defend yourself against nuclear weapons 'at present'.[85]

The section on defending the deterrent received similar treatment. The alterations Sandys had made to his copy of the third proof were carried over into the updated draft, and peace was now said to depend 'largely' upon deterrence, which would have satisfied those who wished to stress the role of conventional forces in deterring Soviet aggression. The fifth proof also saw 'great cities' changed to the 'country as a whole', as not to imply that all major settlements would be effectively written off in any global war; but this is again undermined by the insertion of a new paragraph that makes clear the threat of unmanned weaponry. The third proof had said 'There are grounds for hoping that it may ultimately prove possible to provide missile defences against even attack by ballistic rockets', and followed this by claiming that Britain was engaged in joint research with the United States in solving this very problem.[86] In the fifth proof this was replaced by the following: 'It must be expected that, in a few years' time, the threat of raids by manned bombers will be superseded by the threat of bombardment by ballistic rockets. It is hoped that it may ultimately prove possible to devise missile defences against even this form of attack'. Not only does this re-written statement put a speculative timeframe on the unmanned weapons threat becoming a reality, but 'grounds for hoping' becoming 'hoped' removes the notion of an informed basis for any opti-

mism, serving to make a functioning defence against them seem less likely in the minds of the reader.[87]

The White Paper

Defence: Outline of Future Policy was published on 4 April, and, although the definitive version remained true to Sandys' original vision, it was tempered in certain respects. The spectre of thermonuclear weapons and 'rocket weapons of all kinds' was raised in the opening paragraphs, and British strategic priorities had finally realised the directive of June 1953. In the sections detailing Britain's approach to the nuclear deterrent, Sandys had managed to go even further in the finished article than in his numerous drafts, with the defining passage from the White Paper reading as follows:

> It must be frankly recognised that there is at present no means of providing adequate protection for the people of this country against the consequences of an attack with nuclear weapons. Though, in the event of war, the fighter aircraft of the Royal Air Force would unquestionably be able to take a heavy toll of enemy bombers, a proportion would inevitably get through. Even if it were only a dozen, they could with megaton bombs inflict widespread devastation.[88]

The fifth proof had used the 'people of this country', but this had been revised to the 'whole country' in subsequent proofs. By reverting back to the idea of the people going undefended, the nuclear weapons threat became more general, moving away from just concentrated settlements and, in a possible reference to nuclear fallout, becoming something that would reach everybody everywhere. From this point on, the White Paper actually rowed back slightly on some of Sandys' earlier versions, demonstrating the political realities confronting the Minister of Defence. The Admiralty certainly held its own against Sandys, retaining their aircraft carriers and their declared role as an 'effective means of bringing power rapidly to bear in peacetime emergencies or limited hostilities' (even if its role in global war was still said to be 'somewhat uncertain'), and the door was even left open to the 'possibility that the nuclear battle might not prove immediately decisive'.[89] Elsewhere, there was no firm commitment to Britain building its own ballistic missiles (even if it did say that Britain 'must possess an appreciable element of nuclear

deterrent power of her own'), and air power was said to be 'not by itself a complete deterrent', with the Free World also needing to be 'firmly defended on the ground'.[90]

When all of this is considered against Sandys' previous drafts, he appears to have been forced to compromise. But it has to be kept in mind that this was still, as its name suggested, only an outline of future policy. Precisely how each branch of the Armed Forces would meet its new obligations was still to be determined, and, in this sense, Sandys had succeeded in his primary objectives. He had reconfigured Britain's strategic priorities in accordance with his 1953 recommendations, just as he had finally had it officially recognised that Britain could not defend itself in a global war. He had not been able to explicitly base British striking power upon unmanned weaponry in this April document, but he had at least introduced a greater awareness of its power into the defence debate, and there was still room for him to move policy towards embracing it as whole-heartedly as he had first suggested during the Radical Review.

Whilst Sandys had seen his radicalism restrained by the friction of the policy-making process, the press reacted to the White Paper as a watershed moment in British defence policy. Predictably, the conservative press was broadly supportive of what the government proposed, and the left-wing press was generally disturbed by its conclusions.[91] More specific points were to be found elsewhere, as were fitting allusions to Sandys' experiences of the Second World War, with the aviation correspondent of the *Manchester Guardian* reminding readers that 'The Germans spent more than £100 million on developing the V-2, and the modern ballistic missile is more complicated and therefore more expensive'.[92] *The Spectator* did likewise when praising Sandys as somebody who 'unlike his predecessors … recognises the obvious when he sees it':

> Since the war successive Ministers have been faced with the dilemma that the country's conventional armament has been largely useless … And the lesson of the guided missile was left out of account. The lesson should have been learned on the day the first V2 landed in England—that henceforth the fighter and the bomber were obsolescent. What Mr. Duncan Sandys has done is to see that these facts, for the first time, are collectively admitted. His White Paper is a model of good sense, as far as it goes. But it can reasonably be criticised on the grounds that it does not yet go far enough.[93]

Macmillan was happy that the White Paper had received 'on the whole, a very good press', and happier still that its stated reliance on nuclear weap-

ons 'throws the Socialists into still greater confusion'; but he was worried that Labour would 'cynically' oppose the White Paper with nothing more than 'sentimental appeal'.[94] The politics of the White Paper were put to the test in the 16 April Commons defence debate, when Sandys asked that his 'broad reappraisal of future defence policy' be voted through, saying that it was 'founded on the recognition of two basic facts':

> The first is that, in present circumstances, it is impossible effectively to defend this country against an attack with hydrogen bombs … The second basic fact on which this policy is based is the fact that, whether we like it or not, we cannot go on devoting such a large part of our resources—and, in particular, of manpower—to defence. Since it must now be accepted that adequate protection against all-out nuclear attack is impossible, we believe that the British people will agree that the available resources of the nation should be concentrated not upon preparations to wage war so much, as upon trying to prevent that catastrophe from ever happening.[95]

He went on to say that civil defence would 'remain an essential part of the defence plan', but qualified this by saying there could be 'no real safety in the world' without complete nuclear disarmament.[96] This was coupled with an appeal to 'recognise the grim fact that the only means which the free world possesses to protect itself against Communist aggression and domination is the power to threaten retaliation with nuclear weapons', meaning that Britain must 'possess some element of nuclear deterrent power of her own'.[97] In the context of the annual defence debate, this fatalism could be seen as having been nothing more than an attempt to patch together a coherent strategic concept from the wreckage of what some historians have characterised as his blinkered pursuit of spending reductions. Taking into account the policy preferences Sandys had previously stood by, as well as his conduct throughout this most recent policy-making process, this would do him and his approach a great disservice.

When Sandys mischievously suggested that, whatever they might feel compelled to say, both sides of the political spectrum accepted his pessimistic view of the situation, he was shouted down. This not only gave him the opportunity to stoke divisions within Labour ranks over support for nuclear weapons, but also to elaborate on his own policy preferences, allowing him to develop what he had managed to get into the White Paper. Recalling that previous Labour governments had wanted Britain to have a nuclear capability of its own, he pointed out

that many considered the presence of American bomber aircraft in Britain to represent an adequate deterrent force, and that so long as the United States Air Force maintained a presence in Britain 'it might conceivably be thought safe—I am not saying that it would—to leave to the United States the sole responsibility for providing the nuclear deterrent':

> But, when they have developed the 5000 mile inter-continental ballistic rocket, can we really be sure that every American Administration will go on looking at things in quite the same way? We think that it is just as well to make certain that an appreciable element of nuclear power shall in all circumstances remain on this side of the Atlantic, so that no one shall be tempted to think that a major attack could be made against Western Europe without the risk of nuclear retaliation.[98]

Following some further goading of Labour, using their public statements to suggest that they agreed with him even if they did not realise it (the relevant file in Sandys' archive suggests that a significant amount of the preparation for this speech concerned itself with past Labour Party policy), Sandys came to the idea that the nuclear deterrent consisted of 'not only the bomb, but also the means of delivering it'.[99] This need for a viable delivery system meant that the government would ensure that the V-bombers would be 'supplemented in due course by ballistic rockets', echoing the White Paper and its use of 'supplemented' in the relevant passage.[100] In the section of his speech which covered the future of the Air Force, however, his words became much more definitive. Here it was claimed that 'We are unquestionably moving towards a time when fighter aircraft will be increasingly replaced by guided missiles and V-bombers by ballistic rockets.' He said that this would not happen 'overnight' and that 'there will still remain a very wide variety of roles for which manned aircraft will continue to be needed', but these read like qualifying statements given his careful reference to specific manned bombers.[101] Sandys clearly did believe that manned aircraft would simply be replaced, rather than merely supplemented, by unmanned weaponry, just as he believed that Britain needed its own nuclear capabilities on the off-chance that the United States lost interest in Western Europe. He had been unable to see to it that the White Paper had followed his policy preferences in their most complete form, but here he had used the most important defence set-piece of the political calendar to replace (rather than supplement) one of the main aspects of the White Paper.

The opposition chose to concentrate their criticism on what they saw as movement towards an 'undue dependence on the ultimate deterrent'.[102] Macmillan would have been pleased with their focus on an issue that divided their own party, but, in his response, Sandys almost threw the government's position into confusion. He accepted the Labour amendment as being driven by 'very understandable anxiety', but dismissed their concerns as arising 'from a tendency to generalise about the nature of war'. This inadvertently brought his speech back to his strategic priorities, and his unscripted words are revealing:

> One must distinguish between major global war, involving a head-on clash between the great Powers, and minor conflicts which can be localised and which do not bring the great Powers into direct collision. Limited and localised acts of aggression, for example, by a satellite Communist State could, no doubt, be resisted with conventional arms, or, at worst, with tactical atomic weapons, the use of which could be confined to the battle area.[103]

'Quite impossible', somebody shouted, before Sandys finished the point by comparing this with a full-scale Soviet offensive into Western Europe. This, he said, would almost certainly have escalated into full-blown nuclear warfare, because it was 'inconceivable that either the Soviet Union or the free world would allow itself to be defeated … without throwing everything it had into the battle, including nuclear weapons'.[104] Macmillan wrote in his diary that this 'mix-up about strategic and tactical nuclear weapons' had marred Sandys' otherwise 'admirable' performance in the defence debate; but there was no mix-up on Sandys' part.[105] Richard Crossman had pointed out that East Germany was a satellite communist state, but Sandys said that he did not mean East Germany. The 'enormous forces' at play there meant that it was not a typical satellite state, but the general principle still held:

> I am saying that it is quite conceivable that, in certain circumstances, it might be possible to resist an act of aggression, for example, it might have been possible in Korea—I do not know, but it is a possibility—by the use of tactical nuclear weapons without necessarily bringing the whole world down in conflagration.[106]

When it was suggested from the opposition benches that 'we really cannot shoot these things around without having the whole of world opinion and

world antagonism against us', Sandys replied that he was not hoping to shoot anything around. He was simply 'trying to show that there are different degrees of war', and that the use of tactical nuclear weapons 'might not necessarily lead to the use of the wholesale weapons of mass destruction on great cities'.[107]

Macmillan might not have wished to see the debate become stuck on this point, but this was wholly consistent with Sandys' previous positions on nuclear weapons. How realistic it was that tactical nuclear weapons would not have led to the introduction of their strategic counterparts is impossible to say, but, if Sandys held the belief that nuclear weapons were still a practical policy alternative, as he had when asked about the Korean War in December 1950, then this statement would be logically consistent with what he had previously said. If he did not believe that there was a clear distinction between nuclear and non-nuclear ('conventional') weapons, or even between atomic and thermonuclear weapons (save for the amount of lives that they could extinguish), then he would have had no reason to suppose that the use of tactical nuclear weapons would have represented the crossing of some arbitrary threshold, after which point the spiral into strategic nuclear war between East and West must inevitably follow. His basic point was essentially that, provided you did not hit any Soviets when doing so, it was possible to use nuclear weapons in any number of circumstances.

Crossman asked whether the government was reducing British forces in Europe 'on the assumption that a limited war can be fought with atomic tactical weapons', to which Sandys replied 'All I would say is that we should certainly achieve something if we did that', before quickly adding that he was joking.[108] When asked to explain his previous remarks once more, Sandys agreed to go over it again, and his reasoning is worth quoting at length to provide a better illustration of his policy preferences:

> First, I was talking about the various degrees of war. There is the all-out global war, the head-on clash and collision between the United States and the Soviet Union. I do not believe, and I do not think anybody else can seriously believe, that that could take place without the use of nuclear weapons. Then there is the possibility of acts of aggression—not where the two giants are both involved in a clash with one another—as, for example, in Korea. That was dealt with in Korea by conventional weapons.
>
> I cannot say that, if, in some years' time, a similar situation arises, atomic tactical weapons might not be used by one side or another. Obviously, the bigger the weapon one uses, the greater the risks one takes of bringing the

> world to the verge of catastrophe. All I am saying is that the possibility is not to be excluded that those weapons might be used without necessarily bringing down the whole cataclysm upon the world.[109]

Groom has interpreted Sandys' answers as the government declaring its belief that 'nuclear weapons would not automatically be used in the defence of Europe and that their use would not necessarily escalate'.[110] If Sandys' previous statements are taken into account, this was not what he meant. He was not seeking to introduce an idea of graduated deterrence. Nor was he trying to suggest that the government might have second thoughts about using them against a Soviet invasion of Western Europe. These statements simply confirm that Sandys had little or no regard for any distinction between nuclear and non-nuclear weapons from the perspective of their use being legitimate policy options. He clearly respected their power, agreeing that 'the bigger the weapon' the more likely it was to provoke a reaction, but there is no sign of him treating their size as being relevant beyond established tactical considerations. Nor is there any suggestion that he viewed nuclear weapons as a revered species, suitable only for make-or-break survival situations. This then feeds into his preferred strategic priorities. If deterring the Soviet Union could only be achieved by preparing to annihilate the Soviet Union, then there was no logical reason to believe that different weapons were only suitable for different phases on warfare. If this was to be the case, then Britain needed full control over the weapons it would use to enact these plans.

This point was returned to later in the debate when Richard Stokes interpreted Sandys' comments as Groom later would, saying that it was a 'complete error of judgment to think that we can get away with what is called the graduated deterrent', because it was 'ridiculous to suggest that a losing side … will not go on to something bigger'.[111] Sandys replied, once again, that this was not what he meant, and that he was merely suggesting that tactical nuclear weapons could be used 'in certain circumstances … without necessarily bringing about a wholesale cataclysm'. Stokes, much like those who had written into the *Streatham News* in 1950 to deride Sandys as a warmonger, called this an 'abomination', and asked 'Does the right hon. Gentleman really suggest that we might have used one of these tactical nuclear weapons at Suez?'[112] Sandys did not reply.

Conclusion

Sandys' memoirs included little in the way of detailed analysis of his policy-making at the Ministry of Defence, but it is revealing that, having originally described the 1957 White paper as having placed an 'increased emphasis on nuclear weapons', he eventually changed this to read 'nuclear missiles'.[113] Whilst there has been comparatively little written about the Radical Review and Sandys' role in previous attempts to reduce defence expenditure, once we compare the proposals Sandys had put forward during the Radical Review with what he had attempted to force into the 1957 White Paper, we can see that he possessed a discernible set of sincerely-held, logically consistent policy preferences that have to be given priority in any attempted analysis of the Paper. It is true that he had been asked to reduce the burdens that conscription and confused procurement had placed on the economy, and he sought to do just that; but it is worth remembering that Head had been given the same task, only to quit claiming that it was impossible to reconcile this with a credible defence policy. Sandys thought otherwise. He knew that it was possible, because he had submitted detailed proposals to solve these very problems in 1953.

The criticism Slessor had aimed at the White Paper for having failed to follow its own logic was valid, but to point to the White Paper policy-making process as evidence that Sandys was lacking in his appreciation of the need for an overall strategic concept also demonstrates a tendency to misunderstand the purpose of the White Paper. Its official name is suggestive in this respect, and Sandys had said himself that its purpose was to provide a new basis for British strategy, rather than to serve as a comprehensive planning document. It cannot be said whether Sandys' ideas, and a more thorough commitment to the 'short war assumption', would have proven more successful in their original, undiluted form. Nor is it particularly important that Sandys was unable to have things all his own way. What matters is that the central strategic concepts upon which the White Paper was based, whether or not most people considered them 'tendencies which have long been obvious', had certainly long been obvious to Sandys. The downgrading in importance of those forces not regarded as central to deterring Soviet expansion; the frank acceptance that Britain could not defend itself against thermonuclear attack; the (admittedly restrained) expectations that unmanned weaponry would replace manned bombers and fighters—these were the 'obvious' trends which Sandys had first advocated at a time when they were deemed 'revolutionary' by the Ministry of Defence, and

which he had maintained and developed in connection with the economic, political, and technological changes that had occurred in the intervening years. If Sandys is to be criticised in this regard, then criticism should be based on his actions at the Ministry of Defence between the publication and defence of the White Paper and his departure in October 1959, when, as Macmillan wrote in his memoirs, 'The complexity and expense of modern weapons, together with the heavy risks involved with novel and untried devices, were to prove, during the years that followed, a perpetual source of difficulty and disappointment.'[114]

Notes

1. 'The Rt. Hon. Duncan Sandys, M.P.: Biography Service, Reference Division, Central Office of Information, 27 October, 1957'; DSND 15/4.
2. Not that he had been above doing so previously. During his short stay at the Ministry of Defence, Macmillan had blamed Sandys for the problems affecting the Supermarine Swift, a jet interceptor whose service life would ultimately prove short, accusing him of concealing development issues from colleagues and complaining that it was left to him to 'whitewash the Churchill, Alexander, Duncan Sandys regime'; Diary entries of 27 January and 11 February 1955; Catterall, P. (ed.), *The Macmillan Diaries: The Cabinet Years, 1950–1957* (London: Macmillan, 2003), pp. 385–386 and p. 392.
3. Had somebody else been in charge, Powell believed that the White Paper 'would have been carried through in the form it was and would not have emerged as it did'; Powell had been at the Ministry of Defence since 1946 (save for a two-year spell at the Admiralty between 1948 and 1950). See: Richard Powell's contributions to 'Defence Turning Point: The Sandys White Paper' in *Contemporary Record*, Vol. 2, Issue 4 (1988), p. 30; Macmillan would go on to claim that the White Paper 'constituted the biggest change in military policy ever made in normal times', and credit Sandys for this 'revolution in post-war military thinking'; Macmillan, H., *Riding the Storm: 1956–1959* (London: Macmillan, 1971), pp. 263–266; Sandys himself said in the defence debate following the publication of the White Paper 'Some people say that the policy in the White Paper is

revolutionary; others say that there is nothing new about it. Both are perfectly correct. The policy in the White Paper embodies many ideas which, as hon. Members well know, have been on more than one occasion expressed in earlier defence debates in all quarters of the House, in the Press, and in the country generally. What is new about the White Paper is not the ideas which it contains, but the Government's decision that the time has now come when it is right and safe to base decisions upon it'; Hansard HC vol. 568, col. 1758 (16 April 1957).

4. Baylis, *Ambiguity and Deterrence*, p. 245; French, *Army, Empire, and Cold War*, p. 160; Groom, *British Thinking About Nuclear Weapons*, p. 92; Navias, *Nuclear Weapons and British Strategic Planning*, p. 135 and pp. 251–252.
5. Groom, *British Thinking About Nuclear Weapons*, p. 581; Navias, *Nuclear Weapons and British Strategic Planning*, p. 148; Baylis, citing Navias in his argument, agrees that 'Sandys had a single-minded determination to reduce manpower costs but he does not appear to have linked this requirement to the strategic need to put greater emphasis on nuclear deterrence in defence planning … Although the White Paper, therefore, seemed to indicate a clearly thought-out shift of strategic priorities; a good case can be made that, in practice, economic and political calculations were more important criteria for the Defence Secretary'; Baylis, *Ambiguity and Deterrence*, pp. 249–250'.
6. Baylis, *Ambiguity and Deterrence*, p. 246.
7. Slessor, J. 'British Defense Policy' in *Foreign Affairs*, Vol. 35, No. 4 (July, 1957) reproduced in Slessor, *The Great Deterrent*, pp. 301–314.
8. Slessor used this article to criticise the White Paper in terms reminiscent of those employed by Sandys at the Ministry of Supply, writing that its failure to follow the logic of its main arguments in favour of prioritising the decisive opening phase meant that 'we are not taking advantage of the economies which would flow from the acceptance of the short war assumption'. This meant Britain was getting the 'worst of both worlds' because the White Paper also made little effective preparation for a 'prolonged global war'. This was something of a lesser criticism, seeing as he thought any 'modernized version of 1939–1945' was 'inconceivable in a thermo-nuclear and guided missile age'; 'British

Defense Policy' in Slessor, *The Great Deterrent*, p. 302; Slessor would often state his expectation that unmanned weaponry would come to replace manned bomber aircraft, but he does not appear to have been quite as convinced by them as Sandys, and one biographer has suggested that he simply 'ignored' the increasing vulnerability of manned bombers whilst paying little attention to the 'economic and military folly' of expecting Britain to maintain an expensive bomber force as the basis for its nuclear capability; Orange, V., *Slessor: Bomber Champion: The Life of Marshal of the RAF Sir John Slessor, GCB, DSO, MC* (London: Grub Street, 2006), p. 235.

9. 'Long Term Defence Policy: Note by the Prime Minister'; PREM 11/1778 PR (56).
10. Daalder, H., *Cabinet Reform in Britain: 1914–1963* (Stanford: Stanford University Press, 1964), pp. 188–189; see also: Groom, *British Thinking About Nuclear Weapons*, pp. 205–207.
11. 'Strategic Implications of the Long-Term Defence Policy: Note by the Directors of Plans, 31 December, 1956'; DEFE 4/94, J.P. (56) Note 14.
12. One clue as to how Boyle felt comes from an exchange with Powell on the subject of compensation for those likely to be affected by force reductions. Powell had written to his civil service colleagues to say that Head had planned 'that those who may have to be axed will be generously treated', to which Boyle replied 'I would have thought that if you do your business properly the number of personnel that suffer will be negligible'; Richard Powell to E. W. Playfair: 11 January, 1957 and Dermot Boyle to Powell: 16 January, 1957 in AIR 8/2157; however, unlike Slessor, who was completely devoted to strategic bombing, Boyle had more ambiguous allegiances to, and conceptions of, air power. Whilst he had spent much of the Second World War in heavy bombing roles, prior to becoming Chief of the Air Staff he had been Commander-in-Chief of Fighter Command. Where the bombing aircraft upon which the British nuclear deterrent depended might have been expected to survive any post-Suez review of defence policy, any measure of colonial retreat that it might have advocated would have put British fighter strength at risk; DEFE 4/94, C.O.S. (57) 1st Meeting: 1 January, 1957.

13. He later recalled that he had arrived at Number 10 wanting to see defence policy finally 'take full account of the impact of nuclear weapons'; Macmillan, *Riding the Storm*, p. 240.
14. This was said of Stanley Baldwin, the Leader of the Conservative Party (1923–1937) and Prime Minister (1935–1937), who was criticised for having had 'no personal experience of the fighting Services', or any related administrative experience, which meant he 'failed altogether to understand the character of modern armaments'. Neville Chamberlain, who had succeeded Baldwin in both positions until replaced by Churchill in 1940, received similar criticism for his failure to question the Chiefs of Staff in their belief that Britain was not ready for war in 1938, which Macmillan attributed to Chamberlain and those around him lacking the 'knowledge or experience to undertake this task, even if they had had the will'; Macmillan, *Winds of Change*, p. 514 and p. 574; 'Any man who, of his own choice, misses or shirks such an opportunity [to go to war] is not a complete man'; Ibid., pp. 95–99; prior to the Somme Macmillan had suffered two concussions, one from a bullet grazing his head and another from a shell fragment, and was shot through the hand at the Battle of Loos which left him with lasting difficulties. Guardsmen would go on to describe those responsible for acts of bravery as 'nearly as brave as Mr. Macmillan'; Matthew, H. C. G. 'Macmillan, (Maurice) Harold, first Earl of Stockton (1894–1986)', *Oxford Dictionary of National Biography* (Oxford: University Press, 2004; online edition, January, 2011).
15. His relationship with Alexander was such that Alan Brooke, the wartime Chief of the Imperial General Staff, came to suspect that Macmillan was 'donning the coat of Supreme Commander' himself; 5 February, 1945; Brooke, *War Diaries*, p. 657.
16. 30 May, 1952; Catterall, *Macmillan Diaries: 1950–1957*, p. 163.
17. 25 November, 1954; Ibid., p. 367; on 1 March 1955, he criticised Labour politicians who thought Britain should never use nuclear weapons first, writing 'with the overwhelming Russian superiority in conventional weapons, [this] is absurd'; Ibid., p. 398.
18. 19 July; Ibid., p. 575.
19. Head was a graduate of the Royal Military Academy Sandhurst and rose to become a brigadier during the Second World War;

Horne, A., *Macmillan, 1957–1986: Volume II of the Official Biography* (London: Macmillan, 1989), pp. 47–48.

20. *Sandys Memoir*, 17/A/1-2.
21. Ibid., 17/A/2-4; 'Responsibilities of the Minister of Defence: Note by the Prime Minister, 18 January, 1957'; CAB 131/18 D. (57) 2; Macmillan received a letter from Bernard Montgomery calling his decision 'admirable', adding 'Duncan Sandys now has the power given him by you, to give orders; and, being the man he is, he will see his orders are carried out'; Macmillan, *Riding the Storm*, p. 245; Sandys said that the directive 'amounted virtually to a "blank cheque" and left no doubt as to who was in the driving seat'; something which made itself clear immediately, with Macmillan lauding Sandys a few weeks later as 'both able and obstinate—great qualities'; Sandys Memoir, 17/A/4; 25 February, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, p. 10.
22. 'Long Term Defence Policy: Report by the Joint Planning Staff, 11 January, 1957'; DEFE 6/40, J.P. (57) 4 (Final).
23. DEFE 4/94, C.O.S. (57) 6th Meeting: 15 January, 1957; 'Long Term Defence Policy: Report by the Joint Planning Staff, 24 January, 1957'; DEFE 4/94, J.P. (57) 8 (Final).
24. Templer felt that the report failed to 'sufficiently stress' the importance of NATO; DEFE 4/94, C.O.S. (57) 8th Meeting: 29 January, 1957.
25. DEFE 4/94, C.O.S. (57) 8th Meeting: 29 January, 1957.
26. DEFE 4/94, J.P. (57) 8 (Final); DEFE 4/94, C.O.S. (57) 8th Meeting: 29 January, 1957.
27. 'Long Term Defence Policy: Memorandum by the Chiefs of Staff, 5 February, 1957'; DEFE 5/73, C.O.S. (57) 34.
28. Ibid.
29. This made him the first British Minister to visit his American counterparts since Suez, and before he left Lloyd had told him not to appear either too eager to get back on their good side, or too resentful about their perceived lack of support during the Suez Crisis. Macmillan would later applaud the 'very firm line' Sandys had taken in Washington, apparently letting them know just how 'widespread and deep' anti-American sentiment was in Britain at the time; Navias, *Nuclear Weapons and British Strategic Planning*, pp. 192–193; Macmillan, *Riding the Storm*, pp. 241–

242; Horne writes that Sandys 'had brought this forcibly home to Dulles, with his characteristically plain speaking'; Horne, A., *Macmillan, 1957–1986: Volume II of the Official Biography* (London: Macmillan, 1989), p. 21; Sandys told Dulles 'You really did lead us up the garden path', catching the Secretary of State off guard and causing him to have 'mumbled that the crisis had occurred at an awkward time for the President'; *Sandys Memoir*, 17/B/1.

30. Sandys' speech was part of the debate on an Opposition motion that criticised the 'wasteful and ineffective character of the present defence arrangements'; Hansard HC vol. 564, col. 1283–1307 (13 February, 1957).
31. Extract from minutes of Permanent Secretaries meeting: 20 February, 1957; AIR 19/856; 'The great "defence" week-end'; 23 and 24 February: Catterall, *The Macmillan Diaries: 1957–1966*, pp. 9–10.
32. 'Review of Defence Plans: Note by the Minister of Defence, 22 February, 1957'; AIR 2/14712; Navias writes that Powell said the Service Ministers and Chiefs of Staff did not receive this note until after the meeting at Chequers, and possibly even after the 27 February Defence Committee meeting; Navias, *Nuclear Weapons and British Strategic Planning*, p. 150.
33. Malta, Gibraltar, Hong Kong, Bermuda, and 'the Caribbean' were to be left to those local forces; 'Review of Defence Plans: Note by the Minister of Defence, 22 February, 1957'; AIR 2/14712.
34. It was immediately pointed out by somebody present that failure to manufacture a British missile would put the Western deterrent entirely in American hands. It is not clear from the Cabinet papers who raised this objection, but it was someone who felt that manned bomber aircraft were more than likely to be superseded by unmanned weaponry and that any supposedly independent British deterrent had to be under the sole control of the British government, so it was probably Sandys; CAB 131/18, D. (57) 2nd Meeting: 27 February, 1957.
35. 'Internal note: 7 March 1957; ADM 205/114'; 'Defence Turning Point', p. 31.
36. The chapter 'Reorganisation of Defence' is split into six parts, one of which intended to cover the White Paper. Unfortunately,

the only subsections with a completed first draft relate to his relationships with the Chiefs of Staff and foreign policy-makers.

37. Hansard HC vol. 564, cols. 1306–1307 (13 February, 1957).
38. He gave Labour credit for instigating the 'brilliant scientific research' that had enabled Britain to develop these technologies; Hansard HC vol. 564, cols. 1308–1309 (13 February, 1957).
39. Hansard HC vol. 564, cols. 1309–1310 (13 February, 1957).
40. Hansard HC vol. 564, cols. 1310–1311 (13 February, 1957).
41. Hansard HC vol. 564, col. 1314 (13 February, 1957).
42. The most recent Chiefs of Staff report of 5 February had not offered any recommendations relating to strategic priorities as *Global Strategy* had, but Monckton had said: 'If their first task is to prevent global war and their second is to play their proper part in the cold war, their third is to be capable of dealing with limited and local conflicts wherever they may break out. Fourthly, and it has to come fourth, they must play their part effectively if, in spite of all our efforts, global war should break out'; Hansard HC vol. 549, cols. 1019–1020 (28 February, 1956).
43. 'Defence White Paper: Draft B, 13 March, 1957'; ADM 205/114.
44. It is alluded to later in the draft, but only in terms reminiscent of his 1953 proposals, with the role of naval forces in any global war described as 'uncertain' following the bombardment of Britain by 'aircraft or rockets' that would destroy Britain 'within a few days'. Britain 'keeping open her Atlantic life-line' was listed as a possible consideration, but this was a matter best resolved within NATO planning structures. In Sandys-speak this meant shifting the burden onto the United States Navy; Ibid.; in June 1953 Sandys had written that being part of a Western alliance 'does not imply that we must necessarily provide a balanced force of all arms … On the contrary, we could probably make a more significant and more spectacular contribution to Western power by concentrating our effort upon those aspects of defence for which we are particularly well qualified'; 'Review of Defence Expenditure: 15 June, 1953'; DNSD 4/1/1; in November this became the more strongly worded 'We simply cannot afford, for the sake of prestige and sentiment, to expend our limited resources upon providing a needlessly large number of carriers and cruisers which will merely duplicate American forces';

'Defence Policy and Expenditure: 20 November, 1953'; DSND 4/1/1.

45. George Douglas-Hamilton (the Earl of Selkirk) to Sandys: undated, but most likely 14 March, 1957; ADM 205/114; Grove writes that Selkirk was a 'self-effacing' character, sent to the Admiralty by Macmillan to make Sandys' task easier. Despite this, Selkirk thought it was beyond Sandys' remit to drastically alter the shape of the Armed Forces before it was decided exactly what Britain was attempting to defend; Grove, *Vanguard to Trident*, p. 201.
46. It was even suggested that Sandys' proposals would fail in their declared aim of improving the economic outlook, as their failure to 'convince militarily' would be seen as a 'panic measure forced on H.M.G. by [a] serious and deteriorating economic outlook'; 'Air Ministry criticisms, again undated, but also most likely 14 March, 1957'; AIR 19/849.
47. 'Extract of C.O.S. (57) 21st Meeting: 14 March, 1957'; ADM 205/114.
48. 'Minute from the Chiefs of Staff to the Minister of Defence: 15 March, 1957'; ADM 205/114.
49. 'Defence: Outline of Future Policy–3rd Proof, 15 March, 1957'; CAB 129/85, C. (57) 69; CAB 128/31, CC. (57) 17: 18 March, 1957.
50. He wanted this statement to make clear that the 'objective of our defence policy remained, as it always had been, the maintenance of compact and efficient fighting Services, but that the methods by which we should best attain this objective required radical reappraisal in the light of current strategic considerations'; CAB 128/31, CC. (57) 17: 18 March, 1957; 'Defence White Paper: Amendments suggested in Cabinet discussions or noted in Prime Minister's copy of the draft'; DEFE 7/983.
51. Sandys' personally edited copy of 'Defence: Outline of Future Policy–3rd Proof' in DSND 6/52.
52. 'Long Term Defence Review: 21 March, 1957'; AIR 8/2157.
53. William Dickson to Chiefs of Staff Committee: 21 March, 1957; ADM 205/114; the Chiefs of Staff had reiterated their need for at least 450,000 regulars a month previously in 'Long Term Defence Policy: Memorandum by the Chiefs of Staff, 22 February, 1957'; DEFE 5/74, C.O.S. (57) 47.

54. DEFE 4/96, C.O.S. (57) 23rd Meeting: 22 March, 1957.
55. 'Extract of C.O.S. (S) (57) 5th Meeting: 27 March, 1957'; ADM 205/114.
56. Navias writes that 'it was evident from the outset that this [meeting] was not a search for compromise on his (Sandys') part but a reaction to the criticisms that he had been ignoring the Chiefs … For him, the problem was one of wording and presentation, not strategic rationales'; Navias, *Nuclear Weapons and British Strategic Planning*, pp. 153–154.
57. It is also worth recalling his July 1950 speech that said 'we should be lacking in our duty as a nation if we did not put defence before the restoration of prosperity … what is at stake is our very lives and the freedom we fought for in the last war'; 'Duncan Sandys Gives Grim Warning'; *Streatham News*: 21 July, 1950 in DSND 13/16/1.
58. The main concern of the Chiefs of Staff was that they would be implicated in any unpopular decisions through reference to 'the Government'. Sandys agreed to make sure this would not be the case; 'Extract of C.O.S. (S) (57) 5th Meeting: 27 March, 1957'; ADM 205/114; several of the amendments are noted on Sandys' copy of 'Defence: Outline of Future Policy–5th Proof' in DSND 6/52.
59. CAB 128/31 CC. (57) 26: 28 March, 1957 (4.15 p.m.); DEFE 4/96, C.O.S. (57) 25th Meeting: 28 March, 1957.
60. CAB 128/31 CC. (57) 26: 28 March, 1957 (4.15 p.m.); Navias, *Nuclear Weapons and British Strategic Planning*, p. 156.
61. 'Defence: Outline of Future Policy–6th Proof, 28 March, 1957'; CAB 129/85, C. (57) 80.
62. 'Defence: Outline of Future Policy–5th Proof, 26 March, 1957'; CAB 129/85, C. (57) 79.
63. 'Defence: Outline of Future Policy–8th Proof, 1 April, 1957'; CAB 129/85, C. (57) 84; Admiralty General Message: 3 April, 1957; ADM 205/114; Macmillan noted in his diary on 2 April that the Cabinet had 'finally agreed' on the content of the White Paper and even praised Sandys for being 'very patient'; Catterall, *The Macmillan Diaries: 1957–1966*, p. 26.
64. Navias, *Nuclear Weapons and British Strategic Planning*, pp. 156–157; CAB 128/31 CC. (57) 28: 2 April, 1957.

65. 'Defence White Paper: Note by the Director of Plans, 1 April, 1957'; Parliamentary Secretary to Secretary to First Sea Lord: 2 April, 1957; ADM 205/114.
66. 'Loose notes: 2 April, 1957'; AIR 19/849.
67. Hansard HC vol. 564, col. 1303 (13 February, 1957).
68. Hansard HC vol. 564, cols. 1303–1305 (13 February, 1957).
69. Hansard HC vol. 564, col. 1308 (13 February, 1957).
70. Ibid.
71. Hansard HC vol. 564, col. 1312 (13 February, 1957); Hughes was something of a pacifist, and had been asking questions relating to the futility of air defence in the nuclear age for some time. For early examples, see: Hansard HC vol. 448, col. 160 (1 March, 1948) and Hansard HC vol. 448, cols. 2673–2677 (22 March, 1948).
72. Hansard HC vol. 564, col. 1312 (13 February, 1957).
73. Ibid.
74. Ibid.
75. 'Defence White Paper: Draft B, 13 March, 1957'; ADM 205/114; this must have seemed radical, but Sandys' November 1953 memorandum had made bold predictions about Soviet rocket development that had since come to pass, so he had reason to approach the issue with confidence. He had used his memorandum of November 1953 to say that defence planners should assume that Britain could not be defended from attack by unmanned weapons. More specifically, he had claimed that the Soviet Union would possess unmanned weapons capable of delivering nuclear warheads into London from East Germany by 1956 and that an even more fearsome weapon would not be far behind. In May 1956 the Soviet Union had proven Sandys correct when it deployed the first of its R-5 missiles, vindicating Sandys completely and serving to strengthen his convictions. The R-5 had been in development since 1951, had entered testing in 1954 and had a range of over 700 miles. This meant they would have been capable of hitting London from sites in East Germany; 'Defence Policy and Expenditure: 20 November 1953'; DSND 4/1/1; Chertok, B., *Rockets and People: Volume II–Creating a Rocket Industry* (Washington: NASA History Division, 2006), p. 162, p. 188, and p. 243.

76. 'Defence White Paper: Draft B, 13 March, 1957'; ADM 205/114; 'Defence White Paper: Draft B, 13 March, 1957'; AIR 19/849.
77. 'In any case even if it seemed to be so, why lower the morale of our people and encourage our enemies by saying so'; R. A. Butler to Sandys: 15 March, 1957; DEFE 7/983; the Home Office had actually written to the Ministry of Defence whilst Sandys was working on his first draft after Powell asked them for their thoughts on civil defence. Their response was to submit a note that referred to civil defence preparations as an 'essential part of the policy of reliance on the deterrent', and claimed that in spite of the 'catastrophic conditions that would inevitably result from the use of thermo-nuclear weapons', adequate civil defence measures 'even in these crowded islands might be a decisive factor in the struggle'; S. C. Kirkman to Richard Powell: 8 March, 1957; DEFE 7/983.
78. 'Defence: Outline of Future Policy–3rd Proof, 15 March 1957'; CAB 129/85, C. (57) 69.
79. E. W. Maude to Powell: 16 March, 1957; DEFE 7/983.
80. CAB 128/31, CC. (57) 17: 18 March, 1957.
81. 'Defence: Outline of Future Policy–3rd Proof'; DSND 6/52.
82. George Ward, Secretary of State for Air, also suggested that 'fundamentally altered' be changed to 'progressively altering', which Sandys rejected; George Ward to Sandys: 18 March, 1957; ADM 205/114; 'Defence: Outline of Future Policy–3rd Proof'; DSND 6/52.
83. 'Defence: Outline of Future Policy–3rd Proof'; DSND 6/52.
84. 'Defence: Outline of Future Policy–5th Proof, 26 March, 1957'; CAB 129/85, C. (57) 79.
85. Ibid.
86. 'Defence: Outline of Future Policy–3rd Proof'; DSND 6/52.
87. 'Defence: Outline of Future Policy–5th Proof, 26 March, 1957'; CAB 129/85, C. (57) 79; the sixth proof was altered in much the same way, with the main difference being that the threat of manned Soviet bomber aircraft would now be 'augmented by', rather than 'superseded by', unmanned weapons. Everything else remained intact; 'Defence: Outline of Future Policy–6th Proof, 28 March, 1957'; CAB 129/85, C. (57) 80; the eighth proof remained equally consistent, which moved somebody to

suggest in the Cabinet meeting in which it was discussed that 'it might be unwise at this stage to state categorically that there would never be a requirement for supersonic bombers or for further developments in fighter aircraft, since there could be no certainty that guided weapons and ballistic rockets would meet all future needs'; CAB 128/31 CC. (57) 28: 2 April, 1957.

88. Sandys' personal copy of *Defence: Outline of Future Policy*; DSND 6/52.
89. Grove, *Vanguard to Trident*, pp. 203–210.
90. The Treasury were most probably responsible for their being no definitive statement about a British-built missile, but the Air Ministry had also warned against giving the 'misleading impression' that Britain could manufacture comparable weapons in the short-term when they had received Sandys' first draft; 'Defence White Paper: Draft B, 13 March, 1957'; AIR 19/849.
91. The *Daily Express* hailing an 'astonishing revolution in military planning—the sudden rise to supremacy of the scientist over the Service chief', and the *Daily Mail* stating its belief that the White Paper 'will be numbered among the great State papers of our time'. *The Daily Telegraph* was equally supportive, backing 'the end of the R.A.F. as we have known it'. The *Daily Mirror* demanded that the government 'realise that the people of this country will not be content to live forever in a twilight world, haunted by the shadow of the H-bomb'; The *NEW* Men of Power'; *Daily Express*: 5 April, 1957 and 'Defence Revolution'; *Daily Mail*: 5 April, 1957; 'Strategy for New Times'; *The Daily Telegraph*: 5 April, 1957; 'not THE WAY TO PEACE'; *Daily Mirror*: 6 April, 1957; DSND 55.
92. 'R.A.F. Critics of White Paper: Missiles not last word' and 'Switch to Missiles a Blow to Aircraft Industry'; *Manchester Guardian*: 6 April, 1957; DSND 55.
93. 'Glimpse of the Obvious'; *The Spectator*: 12 April 1957; DSND 55.
94. 5 April, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, p. 27; Macmillan, *Riding the Storm*, p. 266; Groom noted that opposition to the White Paper from Labour was 'strangely muted', probably due to 'the fear of precipitating dissension within the party'; Groom, *British Thinking About Nuclear Weapons*, p. 212.

95. Hansard HC vol. 568, cols. 1758–1759 (16 April, 1957).
96. Hansard HC vol. 568, col. 1759 (16 April, 1957).
97. Hansard HC vol. 568, col. 1760 (16 April, 1957).
98. Hansard HC vol. 568, cols, 1760–1761 (16 April, 1957).
99. DSND 16/6/1; Hansard HC vol. 568, col. 1763 (16 April, 1957); in the follow-up debate the next day, Sandys' only contribution was to respond to charges that he had been too preoccupied with 'taunting' the Labour Party by saying, 'I am surprised … that the things I said yesterday, which were primarily concerned to show that the official policy of the Labour Party on the hydrogen bomb was the same as the policy of Her Majesty's Government, should be regarded as taunts'; Hansard HC vol. 568, cols. 1962–1963 (17 April 1957).
100. Hansard HC vol. 568, col. 1763 (16 April 1957); Sandys' personal copy of *Defence: Outline of Future Policy*; DSND 6/52.
101. Hansard HC vol. 568, col. 1763–1764 (16 April 1957).
102. Hansard HC vol. 568, col. 1764 (16 April, 1957).
103. Hansard HC vol. 568, col. 1765 (16 April, 1957).
104. Ibid.
105. 16 April, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, p. 31.
106. Hansard HC vol. 568, col. 1766 (16 April, 1957).
107. Ibid.
108. Hansard HC vol. 568, col. 1767 (16 April, 1957).
109. Hansard HC vol. 568, cols. 1767–1768 (16 April, 1957).
110. Groom, *British Thinking About Nuclear Weapons*, p. 210.
111. Stokes had been a vocal critic of the strategic bombing campaign during the Second World War, but felt that in light of the punishments meted out to the defeated leaders after that war, escalation would certainly follow if another global war began to unfold and tactical nuclear weapons were introduced at an earlier stage; Hansard HC vol. 568, cols. 1833–1834 (16 April, 1957).
112. Hansard HC vol. 568, col. 1834 (16 April, 1957).
113. *Sandys Memoirs*, p. 20.
114. Macmillan, *Riding the Storm*, p. 268.

CHAPTER 5

The Struggle over the Nuclear Delivery System: 1957–1960

We have seen how Sandys' experiences and memories of the Second World War had left an indelible impression on him, informing his strategic concepts by making him believe that defence was impossible. The next logical move on this trajectory was to ensure that Britain had its own ballistic missile, and by 1957 this was a viable option. The White Paper had not committed the government to Blue Streak, but Sandys intended for it to enter service, and did all he could to ensure its success in the face of pressure brought about by rising costs and the rapid progress made by the United States in sea and air-launched alternatives. Despite support for Blue Streak gradually waning across the government, Sandys insisted that Britain needed its own ballistic missiles, and a point was eventually reached where his apparent refusal to give fair consideration to the merits of Polaris, the submarine-launched ballistic missile system favoured by the Admiralty, caused a high-ranking admiral to complain that Sandys 'will do all in his power to prevent any alternative to BLUE STREAK from being even considered'.[1]

Having based his entire strategic concept upon the belief that there was no defence against unmanned weaponry, the looming failure of Blue Streak played a large part in Sandys' removal from the Ministry of Defence after the 1959 election, as the realities of Britain's financial and technological shortcomings began to make his policy preferences redundant. The government announced the cancellation of Blue Streak as a weapon system (it would carry on in an altered form in the civil

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programme as Black Knight) in April 1960, six months after Sandys had left the Ministry of Defence. Following this decision, it was eventually decided to base Britain's nuclear deterrent on the American-made Skybolt missile. Skybolt made economic sense in that it required a relatively small contribution from Britain, whilst also promising to extend the service life of the expensively assembled V-bomber force.[2] In the event, the Skybolt project was cancelled in December 1962. Poor performances in tests throughout the year, combined with the rapid ascent of both Polaris and land-based intercontinental ballistic missiles in America, sealed its fate. President John F. Kennedy had offered to share development costs with Britain, had Macmillan insisted on making it work; but, wary of making a potentially open-ended commitment to a programme that he thought Britain would find it difficult to influence, he declined. The cancellation caused a furore, almost leaving Britain with no deterrent capability to succeed its manned bombers, until Macmillan was able to secure Polaris at a summit in the Bahamas with an emotional appeal to Kennedy that recalled everything Britain and the United States had endured together.[3]

In order to fully understand the decisions Sandys took in defence of Blue Streak between 1957 and 1960, his attitudes towards alternative weapon systems have to be considered, as does the changing nature of the political and strategic context in which he operated. The two alternative weapon systems that occupied most of his time at the Ministry of Defence were Thor, an American-made intermediate-range ballistic missile, which was initially offered to Britain in July 1956 with certain conditions of access; and Polaris, which the Admiralty backed with an intensive lobbying campaign covertly supported by their counterparts in the United States Navy.[4] Because Skybolt did not enter serious development until early 1959, it received comparatively little attention from the Ministry of Defence during Sandys' time there. Consequently, whilst this chapter seeks to detail Sandys' interactions with those aspects of the policy-making process that related directly to alternatives to Blue Streak as the basis for Britain's nuclear capability at both the Ministry of Defence and the Ministry of Aviation, it is forced to concentrate largely on Sandys' attempts to undermine Polaris and Thor as possible threats to the completion of Blue Streak.

The Political and Strategic Context: Disarmament and Anglo-American Relations

Following the publication of the White Paper in April 1957, attention turned to the impending series of nuclear tests in the Central Pacific, which were expected to prove that Britain was capable of manufacturing thermonuclear weapons. Eden had announced the tests the previous June, telling the Commons that Britain intended to 'carry out a limited number of nuclear test explosions in the megaton range … during the first half of 1957', leaving Macmillan with a difficult schedule.[5] The first test (15 May) was meant to showcase a megaton device, making this a politically significant event, as it was considered that any worthwhile thermonuclear device ought to provide a megaton yield.[6] Unfortunately for the government, the design fell short of its specification, producing a lower detonated yield, and Macmillan could only claim that 'this explosion makes a notable advance in the development of our deterrent power', whilst refusing to provide 'any detailed information about the precise yield, type and design of the weapon exploded' on spurious national security grounds.[7] The government remained equally quiet after the next test (31 May), but the headline in *The Times* suggested that 'Britain's second hydrogen bomb' was bigger than the first.[8] This device was sufficiently close to its megaton target for the government to claim vindication, but it was actually a very large (and very expensive) non-thermonuclear device that was unsuitable for use as a weapon; a fact which remained secret until the end of the Cold War.[9]

Valuable lessons had still been learned from the tests, and the principles of the White Paper remained within Britain's projected capabilities. These were re-affirmed at a 31 July Defence Committee meeting, where Macmillan appeared to have moved away from his previously ambiguous attitudes towards real independence, stating that 'our objective should be to remain a nuclear Power and that for this purpose we should have within our control sufficient nuclear weapons and their means of delivery to constitute an independent deterrent'.[10] These priorities had much more in common with Sandys' early drafts of the White Paper than the finished article. It cannot be said with any certainty what prompted this small but significant shift from Macmillan, but he was most likely sparked into action by the proposals put forward in June by Harold Stassen,

Eisenhower's Special Assistant for Disarmament. These proposals, which Macmillan doubted had even been approved by the State Department, called, not only for an eventual end to nuclear testing, but also for an end to the production of fissile material for military purposes.[11] The inability to test new weapons would have been bad enough, but banning the production of fissile material could have fatally undermined Britain's nuclear ambitions, and Macmillan reacted by wondering 'Is this America's reply to our becoming a nuclear power—to sell us down the river *before* we have a stockpile sufficient for our needs?'[12] Potentially disastrous as this was for Britain, being seen to single-handedly sink an American initiative to reduce Cold War tension was not particularly beneficial either. With that in mind, the Foreign Secretary recommended going along with the 'broadly acceptable' American proposals so as not to jeopardise further co-operation.[13]

For Sandys, whose conceptual framework led him to conclude that the 'security of the Western world rests almost wholly upon the nuclear deterrent', only 'comprehensive disarmament' was in Britain's interests. With the West robbed of its technological advantage, the Soviet Union's superiority in manpower and non-nuclear weapons all but guaranteed its victory should it decide to conquer Western Europe (and presumably the rest of the world having done so). Sandys knew that both the United States and the Soviet Union realised this, and thought that any agreement that went beyond the cessation of testing and an end to the further production of fissile material for military purposes was unlikely. This was the worst-case scenario as far as Britain was concerned. Existing nuclear stockpiles would not be reduced, but being unable to produce new nuclear weapons 'would virtually knock Britain out as a nuclear power'. Despite this, Sandys was also conscious that it would prove 'extremely awkward' if Britain was perceived to have been responsible for 'wrecking the first hopeful step towards world disarmament', so he suggested that Britain support the proposals on the following conditions:

1. That steps towards conventional disarmament be 'firmly laid down' in any agreement, and that the timing of these steps be linked to the reduction in nuclear armaments.
2. That this should be 'taken far enough' as to ensure that in the post-nuclear environment the Soviet Union 'would not be left in a position to dominate Europe with conventional arms'.
3. That this be 'effectively inspected and controlled'.

4. That if this could not be achieved 'within a short space of years', the United States agreed to provide Britain with enough information to 'perfect our own nuclear weapons', and the fissile material needed for a stockpile of nuclear weapons 'primarily for defensive purposes'.[14]

It is worth mentioning Sandys' attitude towards disarmament before moving on to his approach to the nuclear delivery system, because, as well as being the catalyst for hardening Macmillan's earlier ambiguity in relation to British-built weapons, it ultimately confirms Sandys' views regarding the distinction between nuclear and non-nuclear weapons, which, in turn, lead into his views on nuclear independence. In hindsight, it might initially appear as though Sandys had submitted deliberately unrealistic recommendations, since it is difficult for the modern reader to imagine that the Soviet Union would have allowed its non-nuclear military strength to be 'effectively inspected and controlled' by being placed under some arbitrary ceiling determined in accordance with what foreigners thought was enough to take over Western Europe. However, it is worth remembering that Sandys had spearheaded the post-war drive towards a united Europe, and that he would later involve himself with the World Security Trust, a movement dedicated to establishing World Government.[15] He was not somebody who considered national sovereignty to be sacrosanct, or that notions to that effect would prove insurmountable.[16]

For Sandys, nuclear disarmament would have simply weakened Britain to an unacceptable degree. This view grew from his belief that nuclear weapons were not a separate 'evil' to be dismantled on their own, but simply another weapon, the utility of which had important implications for his definition of an independent nuclear capability. This is why he told the Cabinet that any ban on the manufacture of fissile material 'would undermine our defence policy', one of the main objectives of which 'was to maintain our political independence'. This, he said, 'would be frustrated if we were prevented from producing our own nuclear weapons and the United States and Soviet Governments refused to destroy the stocks of nuclear weapons which they would have accumulated by 1960'.[17] He further addressed criticisms that his plans for comprehensive disarmament were 'too idealistic and overlooked the practical difficulties involved' in a May 1958 Cabinet meeting, describing the idea as 'militarily sound' and an 'attainable ideal'.[18] Further to this, he told the 1958 Conservative Party conference that only 'complete disarmament, supervised and controlled by a World Authority, backed by [a] World Police Force' would suffice.[19]

Five months later, he responded to charges that 'this is a bit airey fairy' in a television interview by saying that, in the long-term, 'nothing less than this would be any good'. His reasoning was that, because nuclear weapons kept the peace, their abolition 'will greatly increase the likelihood of conventional wars'. His fear was that in the end this would lead to a nuclear war, since, as soon as the Third World War broke out along non-nuclear lines, 'both sides will start a mad race to produce nuclear weapons'.[20] Therefore, the consequences of nuclear disarmament would be an increased chance of uncontrolled nuclear war; the very thing disarmament intended to prevent. This apparent fatalism creates something of a paradox when placed alongside his 'airey fairy' notions of world government; but it is one which emerges from two sincerely-held positions. Firstly, he believed there was an inevitable shift towards government by supranational organisations taking place. Secondly, Sandys' belief in the utility of nuclear weapons fed the assumption that they would inevitably be called upon as they had been in the closing moments of the Second World War. In this sense, Sandys' all-or-nothing approach to disarmament is perfectly consistent with his well-established belief system and his strategic outlook.

The threat of disarmament remained, but things improved for Britain in late 1957 when the United States was forced to reconsider its unwillingness to allow other nations access to its nuclear knowledge in light of developments in the Soviet Union. In August the Soviets had successfully tested the world's first intercontinental ballistic missile, the massive R-7. Once again, Sandys' earlier predictions about the future of unmanned weaponry appeared to have been vindicated.[21] Lloyd informed the Cabinet that, since the Soviet Union was 'seeking to focus world opinion on the military implications of the earth satellite which they had recently launched', it was 'undesirable that we should appear to be unduly concerned about these implications'. He suggested calling their bluff by congratulating them on such a 'notable scientific contribution to the International Geophysical Year'.[22] Behind this official policy of faux disinterest, however, Macmillan quickly used Sputnik to his advantage, writing to Eisenhower asking 'what are we going to do about these Russians?' He said Sputnik had 'brought it home to us what a formidable people they are, and what a menace they present to the free world', before predicting that it might be 'two or three generations' before communism collapsed and allowed the Soviet people to 'revert gradually to ordinary human behaviour'. The point of this letter was eventually reached when he asked:

> Has not the time come when we could go further towards pooling our efforts and decide how best to use them for the common good? I believe that if your country and ours could join together to guide and direct the efforts of the Free World we can build up something that may not defeat the Russians but will wear them out and force them to defeat themselves.[23]

Macmillan wanted to see the McMahon Act repealed, and when Eisenhower agreed that the Cold War required Anglo-American leadership 'bound together by common convictions, purposes and principles', this seemed promising.[24] Macmillan was invited to Washington, and before he left he informed the Cabinet that Sputnik had forced the Americans to rethink the 'whole structure of Western collaboration', and that they were 'anxious, in particular, to review the pattern of their relations with the United Kingdom and to develop a closer relationship with this country'. In addition to working towards the repeal of the McMahon Act, Macmillan said that he would push for 'joint Anglo-American machinery' regarding 'political, military and economic issues', and before he left London he was given a list of requests to put before Eisenhower.[25] His list included access to fissile material (or help to make better use of British supplies) and information on designing ballistic missiles. This was followed by a recommendation that he should accept Thor missile sites in Britain, and the further suggestion that should he be able to secure Thor with 'the "strings" off', it could prove viable to recast Blue Streak as a joint programme with the United States aimed at developing an even better weapon.[26]

When he arrived in Washington on 23 October, Macmillan told Dulles that if the West held firm 'it was possible that extreme Marxist doctrines would eventually cease to dominate the minds of the Russian people and that their threat to the free world would fade', albeit whilst making it clear that such a strategy of attrition depended upon a rigid Anglo-American understanding. Dulles agreed, speculating that even this preliminary meeting 'might well have a decisive influence on the course of history'. Dulles' sense of history led him to conclude that Britain and the United States were both nations whose pasts 'had been dominated by a sense of mission and of destiny', and that only they could 'shake the Western world out of its mood of apathy'. It was then that Macmillan said the following:

> [W]e should begin by establishing the principle that, since the purposes of the United Kingdom and the United States were the same, the independence

> of the two countries should become interdependence. We should work out how our separate resources—in political, economic, military and propaganda fields–could be pooled for the furtherance of our common purpose.[27]

Macmillan referred to this in his diary as 'quite a romantic picture of what [the] US and UK could do together', noting that the launching of Sputnik had seriously shaken the American people.[28] That evening he used an informal reception at the White House to pester his old friend Eisenhower, but he considered it to have been a disappointment, retiring to the British Embassy 'a little depressed'.[29] However, his mood was lifted the following day when Eisenhower backed greater co-operation between the two countries, making the exclusivity of this offer clear by insisting that it came with a degree of secrecy lest Paris or Berlin expect similar favourable treatment. Macmillan hailed the 'exceptionally close personal links' between Eisenhower and himself as proving influential, stressing the seriousness of this new alignment by recalling how they were 'founded in their co-operation in a previous time of crisis'.[30] British and American civil servants were then asked to prepare specific proposals for increased co-operation, before Eisenhower referred to the provisions of the McMahon Act as a 'great mistake', promising to go 'as far as he could' in overturning this 'blanket of atomic secrecy'. This was what Macmillan had wanted to hear, but, when Eisenhower suggested that the best solution might have been 'Some NATO concept of a stockpile or of special forces under SACEUR (Supreme Allied Commander Europe)', Macmillan made sure proposals relating to control of nuclear weapons and 'problems of pooling nuclear potential' were given special consideration.[31] The civil servants concluded that, although 'blocks' remained on further cooperation, if these could be rescinded then Britain could save significant amounts of money by using American fissile material. Furthermore, exchanging information and rationalising defence projects would save both countries money, possibly leading to effective defensive solutions to both unmanned weaponry and submarines. Consideration was also given to the supply of 'complete weapons systems for the United Kingdom with custody retention in United States hands as necessary and with assurance of use only as jointly determined by the two countries'; but, as the report noted, everything still had to be 'fully blueprinted'.[32] Macmillan was nevertheless able to write in his diary that 'The job is done—and I must frankly say better done than I expected.'[33]

From here Britain enjoyed a run of success. The *Declaration of Common Purpose* was published on 25 October, laying down 'understandings' agreed by 'trusted friends of many years'. Interdependence was now said to be a basic fact, with the 'concept of national self-sufficiency' deemed 'out of date'. Moves towards the principle of collective security were recommended, as was the amendment of the McMahon Act to make 'close and fruitful collaboration of scientists and engineers' possible. Disarmament was raised, but, in the event of its failure, the two nations considered their nuclear arsenals to be held in 'trust for the defense of the free world' until a 'just and lasting' peace could be achieved through the collapse of 'Communist despotism'.[34] Macmillan defended this on 5 November, using the Debate on the Address to tell the Commons that:

> Since the war we in this country, as well as most of our friends and allies, have recognised that in modern conditions we are, to a large extent, dependent on the United States and our other allies for our defence—that is, our defence in global war against Communism, our resistance to Communism. However—let us be frank about it—there has been some doubt about the position of the United States.[35]

These doubts related to whether the United States would 'relapse into isolationism or decide to go it alone' once the Soviet Union presented a credible threat to its mainland by acquiring intercontinental ballistic missiles; Macmillan claimed that interdependence had brought an end to them.[36] He even began to talk about the agreement as a 'first beginning' for the 'effective union of the free world', into which nations would pour 'an even more significant contribution of their national sovereignty to the common cause than hitherto'.[37] This heady rhetoric was toned down the following week when he claimed that 'Any agreement or treaty in a sense impinges on national sovereignty', and moved to stress that interdependence was a matter 'not of fundamental change, but of degree', more modestly comparing it to the foundation of NATO.[38] Macmillan may have simply got ahead of himself in the first debate, or the moderation of his enthusiasm in the interim may have owed something to the explosion of Britain's first true megaton weapon on 8 November. Either way, this apparent conflict between interdependence and independence became a major issue in defence policy-making during the remainder of Sandys' period of involvement. Whilst Macmillan was quick to embrace its practicalities, Sandys remained consistent with his well-established policy preferences, demon-

strating that possession of a credible delivery system took precedence over targeting arrangements in his definition of what it meant to possess an independent nuclear capability.

Thor and the Independent Nuclear Capability

In early 1956 the United States began to develop an intermediate-range ballistic missile that was capable of hitting targets within the Soviet Union from European bases. This was Thor, and for all of the testing problems that it had experienced throughout 1957, it was expected to be a useable weapon by the time Sandys had implemented his new strategic concept (it was the prospect of acquiring these weapons that had previously allowed Macmillan to remain ambiguous about the need for a British-built missile). This was a concern for Sandys, but, whatever the plans for Blue Streak in 1957, it was certainly not going to be operational in the near future, meaning that a temporary stop-gap had to be considered. Sandys was happy with such an arrangement. If unmanned weaponry was to replace manned bomber aircraft, it made sense to supplement the V-bomber force with American-made ballistic missiles until the British-built weapon replaced them all.

Macmillan had reached an agreement regarding Thor with Eisenhower at the Bermuda Conference (21–3 March 1957), which he had arrived at believing that if he and Eisenhower could not repair Anglo-American relations then 'Europe is finished'.[39] Luckily for Macmillan, who considered Eisenhower to be a personal friend, having worked closely with him in the Mediterranean during the Second World War, Bermuda was a genuine success.[40] He was able to make it clear just how Britain had felt let down by the United States over Suez, whilst at the same time proving his commitment to fighting the Cold War by describing communism as 'evil' during his well-received opening speech.[41] The immediate practical result of this was that a number of agreements were reached regarding defence collaboration, including a tentative arrangement to coordinate strike plans between the respective bomber forces of the two nations. More importantly, the proposals mooted during Sandys' 1954 mission as the Minister of Supply were confirmed when Eisenhower agreed to store American nuclear warheads in RAF bases in case of emergency, and also to modify British Canberra bombers to enable their use. Macmillan wished to draw attention to this particular agreement as definitive proof that he had successfully restored Anglo-American relations, but Eisenhower urged secrecy so as not to encourage other allies to expect similar assistance.[42]

One important agreement that Macmillan was able to broadcast was the accord in principle for Thor to be based in Britain, justifying it in the Commons by saying that Thor would be available 'some years before those [missiles] which we have been developing for ourselves'.[43] Pre-empting concerns about the precise amount of control Britain had over Thor, he defended the agreement by comparing the missiles to the aircraft of Strategic Air Command based in Britain, which were 'under the sole control of the Government of the United States' (the fact that this agreement had been made under a Labour government meant that Macmillan was able to compare his new agreement favourably).[44] Furthermore, it added weight to the project to develop British warheads. This was because whilst the missiles themselves were to be fully owned, manned, and serviced by Britain, they still carried warheads subject to United States control under the stipulations of the McMahon Act, placing the system under dual control. Therefore, Macmillan had to state that an element of foreign control over Thor would last 'So long as we rely upon the American warheads, and only so long.'[45] Despite the assurances of the Prime Minister, the details of this agreement sparked some controversy, with questions being asked about why 'we are entrusted by an ally with a weapon, but are not to be trusted with the ammunition'.[46] Macmillan was content that his speech had seen the 'Tories (temporarily) united and the Socialists split in two', and the White Paper was able to formalise the government's intention to secure these American-made missiles.[47]

This short-term political victory may have pleased Macmillan, but similar concerns had already been raised by the Air Ministry. Taking their lead from Sandys' original 22 February briefing that bomber aircraft would be replaced 'in due course' by ballistic missiles, it was pointed out that abandoning Blue Streak, or merely over-running its tight development schedule, would leave Britain to either base its nuclear deterrent capability on 'obsolete' weapons, or, even worse, become completely dependent on 'such weapons as the U.S.A. chooses to supply'.[48] It was assumed that these weapons would come with similar political restrictions to Thor, so, whilst the Air Ministry was still supportive of the government's intentions, they made it clear that they could not support obtaining Thor 'at any price', advising the government to extract the most favourable terms on something that was actually 'useless' without European launching sites.[49] Thor was put to one side for the remainder of 1957 as Sandys sought to implement his strategic concept, but in early 1958 formal agreements were drafted in the lead-up to the publication of the latest White Paper.

Now the Chiefs of Staff waded in, voicing their concerns that SACEUR might gain control over Thor and attempt to use it in support of tactical operations.[50] Boyle in particular had developed serious doubts about Thor, and warnings reached the government at the end of January that it was not only unsatisfactory in terms of what Britain required, but subject to a control arrangement 'which in our view is designed to serve American ends more than British'.[51]

It was this control arrangement which has seen Thor become intertwined with Sandys' take on interdependence, and which has allowed historians to argue that he prioritised securing Anglo-American friendship over his long-stated belief that Britain should possess an independent nuclear capability, with Navias referring to the 'paradoxical objectives of an emphasis on maintaining an "independent" nuclear force and the recognition that the major thrust of policy must be directed towards a deterrent posture in conjunction with the United States'.[52] This has been given particular attention in relation to Sandys' brief period of enthusiasm for Thor over the summer of 1958, when he flirted with the idea of an independent version (without political conditions, and topped with a British-built warhead) as an alternative to Blue Streak. Baylis describes this as characteristic of the 'dilemma over interdependence and independence', and Clark sees the period as being marked by Sandys' 'wavering' in relation to his otherwise consistent championing of Blue Streak.[53] Navias goes further, using this moment as proof that 'total independence … was never his (Sandys') primary concern'.[54] It is worth ascertaining precisely what is meant by independence here, and Navias offers two main alternatives and a 'third approach':

> (1) 'unilateral independence' whereby Britain would seek to deter the Soviet Union independently of the United States through the maintenance of a capability to deliver unacceptable damage to the USSR in the form of nuclear strikes against her cities; and (2) 'independence in concert', whereby Britain would maintain the capability pre-emptively (or possible even under attack) to destroy her own Soviet targets which were regarded as specifically threatening to the UK in the context of a joint allied attack.[55]

The 'third approach' was one where Britain maintained its nuclear capability to 'influence the United States and reinforce the United Kingdom's world power status' whilst planning on the basis of 'trust in the capabilities of SAC (Strategic Air Command) for dealing in the future with an ever-expanding Soviet target set'. This approach, he claims, was favoured

by the various Ministers of Defence due to its 'greater tolerance for economies and cuts'.[56] This approach is not, however, satisfactory even when discounting the fact that Blue Streak, by being heavily dependent on American technology, would have fallen short of allowing Britain to pursue a policy of 'unilateral independence' under its strictest definition. Therefore, attempts to reconcile Sandys with these rigid definitions in order to prove he was never committed to 'total independence' are flawed. Instead, we need to understand this period in the context of the arguments made in this text: Sandys' actions make sense when they are seen in the light of his long-standing world view.

Sandys and Nuclear Independence

In June 1953 Sandys had written that Britain's status as a leading nation depended 'upon our ability to make a military contribution of sufficient importance to assure us a say, second only to America's … in the shaping of Allied strategy'. He knew that the United States would 'undertake a large proportion of the atomic offensive against Russia', but was determined that Britain should play 'some appreciable part' in Western nuclear strategies. He also argued that Britain had to remain capable of 'undertaking special missions, such as the precision bombing of vital installations', in particular the 'airfields from which the Soviet air attack on Britain is being launched'. His understanding of the future, derived from his interpretation of the past, led Sandys to conclude that such an air attack would be decisive. Consequently, it would be 'unthinkable' to leave the task to any other nation, even the United States.[57] Sandys was, therefore, arguing for interdependence as a means of ensuring overall British defence, as well as the capacity for Britain to focus on what he perceived to be critical missions. In his follow-up November memorandum this reliance on the United States was taken further:

> [A]n independent defence system is a luxury we can no longer afford. Our existence as a free nation is already entirely dependent upon the deterrent effect of America's strategic air force and her stockpile of atomic bombs, and it is only in alliance with America that we could hope to survive an attack by Russia.[58]

This early thrust towards a policy of interdependence was reinforced four years later by the White Paper's claim that the defence of Britain was only possible 'as part of the collective defence of the free world'. The White

Paper had said that Britain required an 'appreciable element of nuclear deterrent power of her own', but admitted that 'The free world is today mainly dependent for its protection upon the nuclear capacity of the United States'.[59] This would all represent an unequivocal endorsement on Sandys' part of Navias' definition of 'independence in concert'. On the other hand, Sandys had also asked rhetorically during the debate on the White Paper whether the United States would remain a reliable ally once the Soviet Union could strike it directly, and in doing so he appeared to define 'an appreciable element of nuclear power' as something capable of deterring the Soviet Union on its own.[60] This was more like 'unilateral independence'. To further cloud the issue, his statements on the 'shaping of Allied strategy', and on American co-operation, could be interpreted as Navias' 'third approach'; but, at the same time, his desire for Britain to possess a genuine nuclear threat, rather than to maintain a status symbol or a bargaining tool, would move him away from what reads like a primarily political definition.

Despite the Air Ministry's concerns, Sandys supported Thor, and in February he submitted a memorandum to the Cabinet detailing the precise logistical points. These were that the United States would provide the missiles and train British airmen to use them on facilities paid for by Britain; but that the weapons would remain under joint control, as the McMahon Act insisted that the warheads remained 'in American custody'. This might well have represented a 'valuable addition' to the Western deterrent, but he added a note of caution, reminding the Cabinet that Thor 'cannot, of course, be considered as an element of independent British nuclear power'.[61] In light of what Macmillan had said the previous July about an 'independent deterrent' being essential for any nation seeking to remain a nuclear power, this was an important point, and control arrangements became a significant issue when drafts of the agreement were felt by some to imply that the Americans could launch them without deferring to Britain if a NATO member was attacked, as loose wording could be interpreted as having placed the missiles under the command of SACEUR.[62] Sandys moved to resolve any anxieties when he was questioned in the Commons as to whether constructing British warheads for Thor would make them completely independent, as Macmillan had intimated the previous April. He confirmed the temporary nature of Thor when he replied with a definite reference to Blue Streak, claiming that the government had no plans to do this because 'We are concentrating our efforts on developing an all-British rocket of a more advanced type.'[63]

The United States had originally hoped to begin the deployment of Thor in July, but testing failures slowed progress, leading Boyle to predict that it was 'completely unrealistic' to expect Thor to be in any 'acceptable operational state' by December, despite what the government may have been promised.[64] This brought British nuclear policy back into discussion, and, in a series of Defence Committee meetings during the summer of 1958, there was general agreement that the purposes of the British nuclear capability was to retain influence with the United States and in world affairs, but also to 'make a definite, though limited, contribution to the total nuclear strength of the West'. The need for this 'definite' contribution was to ensure that if the 'development of inter-continental ballistic missiles' (it is worth noting the focus on missiles rather than bombers) forced the United States to withdraw from Europe, then Britain would still have had enough retaliatory power to deter the Soviet Union from overrunning Western Europe, and to 'present the United States with a *fait accompli* before any effective retaliatory action could be taken'. In addition to this, an independent nuclear capability would have allowed for attacks on those targets 'of immediate importance to us'. It was by now accepted that only a 'stock of ballistic missiles' would provide Britain with an effective nuclear capability beyond the lifespan of the V-bombers, but it was suggested that if complete weapon systems could be purchased 'without any restriction on their use', then the development of a British-built weapon could be accorded lower priority.[65]

When Sandys had his say the following week, he seemed to be more convinced by Thor than he had previously been. Having entered a period of doubt regarding the Blue Streak programme in its existing form, he had come to see Thor as a possible stop-gap, provided that British warheads could guarantee its independence. If the missiles could be procured 'without restrictions on their use', Sandys believed that this would solve 'our interim requirements' and allow Britain to reduce expenditure on Blue Streak.[66] This has been used to question Sandys' commitment to an independent nuclear capability. It is true that Sandys had always supported Blue Streak; but only because, as well as being impossible for the Soviet Union to defend itself against, it promised to be the most suitable weapon in terms of its operational and technical independence. This would be supported by his subsequent point in the aforementioned Defence Committee meeting that if Blue Streak was to be sidelined, Britain 'should seek to collaborate with the United States in a joint project for a more advanced type of ballistic missile' capable of succeeding both Thor and the V-bombers.[67]

This is why, when he suggested in a September memorandum that Blue Streak could be cancelled, and that Britain should utilise an independent variation of Thor in its place, he made it clear to the Defence Committee that this was in order for a 'better weapon' than Blue Streak to be developed, with the idea being that increased co-operation with Europe and new information from America would make this possible.[68] It is also why, in a round of Washington discussions with the United States Secretary of Defense in late September, he explicitly referred to an independent version of Thor as an 'interim measure' between the V-bombers becoming ineffective and a 'more advanced' successor to Blue Streak being developed.[69] In a later meeting he added to this by saying:

> Britain regarded them (Thor) as being an extension of the independent British medium bomber force, which, together with American Strategic Air Command, had the task of strategic bombing of targets deep inside Russia … Any missiles so acquired must be 'without strings', so that they could be used independently by Britain, if she so wished, in the same way as the medium bomber force.[70]

For these reasons, Sandys made it clear that Britain 'could not agree that any element of the independent British deterrent should be subordinated to SACEUR'.[71] When it became clear by November that technical advances 'could readily be incorporated' into the existing Blue Streak programme, and that European enthusiasm for a joint missile project was limited, Sandys quickly reverted to his belief that 'if we wish to maintain an independent British contribution to the nuclear deterrent … we must proceed with the development of Blue Streak'.[72]

There was some degree of wavering from Sandys in relation to the effectiveness of Blue Streak, but his belief that only unmanned weaponry could provide a sustainable means of delivering nuclear warheads remained absolutely consistent, and central to his concept of nuclear independence. This is supported by the 5 November Defence Committee meeting in which he said that 'he could envisage circumstances in which the threat that we would use our nuclear deterrent independently of the United States would be the only method of preserving peace'. In the context of a discussion where the Chancellor had suggested abandoning Blue Streak 'even if this meant that at some time in the 1960s [*sic*] we should cease to have an independent deterrent', this is an unequivocal defence of maintaining the capability to pursue a policy of 'unilateral independence', albeit whilst expecting such an eventuality to remain unlikely.[73]

Sandys' return to Blue Streak was completed when another November memorandum thoroughly demolished his earlier advocacy of using an independent variant of Thor as even a temporary replacement. He claimed that Thor would be 'unusable after about 1968', offering only 'marginal' benefits in light of plans to extend the lives of the V-bomber force by equipping them with air-to-surface missiles. He also wrote that Thor had 'no reserve of power or carrying capacity to embody technical improvements, such as devices to counter anti-missile defences', and would prove 'very vulnerable to rocket attack' owing to its deployment above ground, which meant that it compared unfavourably with Blue Streak, which was expected to be based in hardened underground silos. The most important consideration, however, was that using Thor to justify pausing Blue Streak whilst research was made into a superior weapon would end any hopes of 'completing the deployment of a British-made rocket before the mid-1970s, i.e. several years after the V-Bomber force had ceased to be effective'.[74]

In spite of its downsides, Sandys recognised that Thor represented a worthwhile investment for Britain. The United States might have maintained an unfortunate amount of control over its use, but this was balanced by the fact that it initially promised to be a more successful delivery system than the V-bomber force, which, whilst under independent British control, was far less likely to penetrate Soviet air defences. Sandys accepted this lack of genuine independence in Thor, but it cannot be used as evidence of him having had no real commitment to independence. He saw Thor as a temporary solution only, heavily dependent on the condition that it did not allow the government to abandon the British-built ballistic missile that would guarantee genuine long-term independence, and his memoir refers to his January 1957 Washington visit to secure their use as 'pending the completion of the development of our own "Blue Streak" rocket'.[75] In this sense, any ambiguity over definitions of independence on Sandys' part were in relation to having to accept this short-term political compromise that conflicted with certain aspects of his established policy preferences, and where Navias uses the uncertainty that momentarily came to surround Blue Streak as evidence of Sandys having had no interest in an independent nuclear capability, his analysis is restricted by overly-rigid definitions of independence presenting a false dichotomy. He also appears to view Blue Streak with the benefits of hindsight. We now know that Blue Streak represented Britain's last chance at developing for itself an independent nuclear capability, but Sandys was even looking beyond Blue

Streak at this point, deliberately connecting his willingness to sideline the project with the promise that Britain's long-term nuclear independence be secured by a superior successor.[76]

This all has to be considered alongside the notion that Sandys consistently attempted to adhere to an established set of policy preferences. Despite having to meet Macmillan half-way on Thor, everything had been considered with Blue Streak (and the truly independent qualities it—or its successor—promised) providing the intellectual framework to these discussions. In the same way that his strategic concept flowed from his belief that unmanned weaponry would dominate future warfare, Sandys' concept of nuclear independence was based solely on whether Britain would have full control of an effective nuclear strike weapon—that is to say, a worthwhile stock of ballistic missiles. For Sandys, provided Britain controlled its ballistic missiles, it possessed a truly independent nuclear capability. This is the fixed point of reference from which his personal definition of independence is best understood. That the United States was open to a joint targeting arrangement was helpful, and an allied construction project would have had its advantages; but as long as these partnerships did not place a theoretical block on the operational independence of whatever weapons that Britain might have gained (in the way that Thor's control arrangements had), then Sandys would have considered the British nuclear capability to have been independent. What it was aimed at, and who it was aimed with, were secondary concerns. Unmanned weaponry posed such a threat in Sandys' mind that, even if the United States pulled out of any joint targeting strategy, what was left would have still represented a significant threat to the Soviet Union, as, even at the point of cancellation, the plan was to have at least 60 Blue Streak missiles secured in underground facilities. This is supported by his March 1959 statement to television viewers that Britain would eventually have enough Blue Streaks 'to make anyone who is planning to attack us think again'.[77]

Thor was deployed in Britain from July 1959 onwards, and, although successful test launches had been conducted, it was still not fully operational by the time Sandys left the Ministry of Defence.[78] Overall, it might be said that whilst assessing Sandys' contribution to the policy-making process relating to Thor can go some way towards proving his commitment to 'total independence', at the same time its adoption did not prove particularly testing to his established policy preferences. Once Macmillan had moved towards the need for an independent weapon system, Thor came with relatively little risk, both financially and in relation to its effects on

Blue Streak entering service. It was available, and it soon became apparent that it could not be considered a serious long-term alternative to a British-built ballistic missile, particularly as its eventual deployment would prove difficult. This can be held in contrast to Polaris, which proved a much more troublesome prospect for Sandys.

The Move to Polaris

It has been mentioned that the White Paper contained little in the way of Sandys' true thoughts about the future of the Navy; but everybody knew that this was not an indefinite reprieve, and McGrigor had warned Mountbatten that his new boss had little regard for the Navy 'as everything will be finally decided by the H-bomb'.[79] In mid-February 1957, Sandys had lived up to his billing when he invited the Chiefs of Staff to pick up where the Radical Review had left off and consider the future of naval aviation. Their response recycled familiar defences, listing the need to maintain cohesion within NATO alongside 'prestige value' as worthwhile reasons for maintaining aircraft carriers that made up the 'most flexible and valuable' part of the Navy.[80] Sandys accepted this, and his 22 February plan for a 'considerably reduced fleet' explained that this 'would be composed basically of 3 Carrier Task Groups'.[81] This idea was developed in the first draft of the White Paper, which had said that aircraft carriers would become increasingly important as Britain reduced its number of permanent bases overseas, and was carried over to the finished product, which referred to them as 'in effect a mobile air station'.[82] This softening of Sandys' previous views appears to have instilled a certain amount of confidence in the Navy, and the Admiralty, once again, tried to argue that the V-bomber force received too many resources, claiming that they could no longer support them 'having the first call on Defence Votes'.[83]

The Navy may have saved its aircraft carriers, but Sandys still doubted those heavy ships that had escaped the Radical Review. The White Paper had said that the 'number of large ships will be restricted to a minimum', and it was unfortunate for him that, having attacked cruisers in his Radical Review recommendations, construction had then began on three of them in one of Macmillan's first acts as Minister of Defence.[84] In November Sandys wrote a memorandum for the Defence Committee on the 'Role and Composition of the Navy' that said that one of these cruisers could be banished East of Suez, where 'limited war is most likely to occur', and where a 'balanced all-purpose naval force' was actually needed. This

was contrasted with the Mediterranean and Atlantic, where the Navy was expected to operate within NATO, reducing the need for balanced forces, allowing Sandys the idea of naval power being concentrated on anti-submarine operations, which provided a use for the aircraft carriers and the N.A. 39s he had tried to abolish with his Radical Review proposals.[85]

Sandys' compromise was not enough for the Navy. Mountbatten accepted most of what Sandys had in mind, but warned against 'arbitrary ruling[s] that naval forces were artificially restricted either to one role or one geographical area'. Mountbatten could not increase manpower, but he stressed the need for 'well-found ships and modern equipment', as well as flexibility of action. This was based on the idea of dual deterrence, dependent not only on the nuclear deterrent, but also on the political and military cohesion of NATO. Since the Royal Navy was the second biggest navy in NATO, and therefore a 'keystone of NATO as [a] deterrent', Mountbatten followed his own logic and described the Navy as a vital component of the deterrent, claiming that undermining it could also undermine NATO. This, in turn, would lead to NATO's collapse, and allow the Russians to dominate Europe 'piecemeal' before turning towards Britain.[86] With such drastically different ideas of what the Navy was for, the Chiefs of Staff were asked to examine the two reports. Somewhat predictably, they concluded that 'both the First Lord's and the Minister of Defence's proposals accord sufficiently closely with the United Kingdom's strategic requirements to be acceptable', adding that the 'ideal fleet would probably lie about halfway between these proposals'.[87]

There remained a degree of consistency in Sandys' attempts to accommodate his policy preferences with political realities. In his June 1953 memorandum he had argued against aircraft carriers on the basis that shipping could be better protected by land-based aircraft. It was still thought to be the case that aircraft were better at sinking submarines and surface ships, but some use had to be found for the existing aircraft carriers. The logical conclusion was to integrate them into the strategy Sandys had brought over from the Ministry of Supply, and, as the Air Ministry had previously put it, risk '£40 million of capital in a fleet carrier that can be sunk with one bomb'. Finding a role for aircraft carriers showed that, when required, Sandys was capable of moderating his policy preferences in light of his new, wide-ranging responsibilities. Where he was previously able to conceive an entirely new defence outlook as the Minister of Supply, at the Ministry of Defence he was constrained by the kind of political realities that made scrapping significant parts of the fleet extremely difficult.

However, as with Thor, this sort of compromise position was only possible so long as his core strategic concept, which was by this point wholly bound up with Blue Streak (or its successor), was not threatened. When the Navy began to propose their own alternatives to Blue Streak, this ability to compromise was challenged.

The Admiralty and Setting the Agenda

The Chiefs of Staff were no longer willing to defend the Navy as they had during the Radical Review; but with Mountbatten fighting a running battle to secure the Navy's future, one solution was to increase its importance to Britain's nuclear deterrent. The Polaris programme was still in its infancy in 1957, and Grove has written that the Admiralty had initially showed 'distinctly limited enthusiasm' towards it; but, having been briefed on its development by friends in the United States Navy, Mountbatten had proposed it as an alternative to Thor in May.[88] Sandys' Blue Streak-friendly allies at the Ministry of Supply immediately moved to criticise Polaris, describing hopes that it would be operational by 1965 as 'optimistic even by American standards', questioning the size of its warhead, and saying that any British project would have to be 'similar in magnitude to Blue Streak'.[89] This put the issue to one side for a while, but when Macmillan asked the Admiralty about the 'atomic submarine' in August, by which he simply meant the potential uses of a nuclear-powered vessel within existing naval strategy, Selkirk used this opportunity to impress upon him their potential to take on an even greater responsibility.[90] His reply to Macmillan described the move to nuclear-powered naval vessels as being as revolutionary as the 'transition from sail to steam', urging him to find enough money for Britain to keep pace with Soviet developments. Furthermore, he told Macmillan that the United States was looking to equip its nuclear submarines with ballistic missiles as part of an 'essential development in the nuclear deterrent … giving high mobility to a weapon which is practically undetectable and almost invulnerable', making them a genuine alternative to their land-based counterparts.[91]

The Admiralty was able to confirm these opinions in October when they were given a glimpse into what USS *Nautilus*, the world's first nuclear-powered submarine, was capable of. *Nautilus* had been launched in early 1954, and put to sea the following year, when it soon became apparent in testing that much of what was understood about anti-submarine warfare would have to be rewritten. In two naval exercises, one organ-

ised by NATO, and another by the Royal Navy (during which *Nautilus* was placed under British command), this was impressed upon British policy-makers when it was reported within the Navy that 'she can command the freedom of the seas whenever she chooses to take the initiative', and that, in previous American exercises, she had proven herself a hundred times less likely to be 'killed' than non-nuclear submarines. The Navy immediately realised that the threat of Soviet nuclear submarines placed renewed focus on exactly what was required to keep the Atlantic lifeline open, thereby serving to throw Sandys' naval plans into question. It was also noted that

> As an instrument of surprise attack against targets (sea or land) the nuclear submarine had potentialities which are unsurpassed whilst the problems which it poses to the defence are formidable indeed. The American Navy, originally sceptical of its capabilities, now regard the nuclear submarine as an entirely new weapon of war.[92]

Sandys had witnessed the *Nautilus* exercise as Mountbatten's guest, and he was suitably impressed by its performance; but there is little to suggest that he gave any real consideration to basing the future of the Navy on these vessels.[93] If Sandys could not be impressed directly, then the Admiralty had to utilise other means to put their preferences over. This was particularly true in light of the January directive that had increased Sandys' influence over equipment, as well as removing the Service Ministries' ability to lobby Macmillan or the Chancellor directly. Early examples of this can be found in Selkirk's considered approach to putting Polaris on the agenda, beginning with his response to an article in *The Times* that had described the idea of a naval deterrent as a 'luxury that only the Americans can afford'.[94] Selkirk wrote to the editor of to complain that 'all the far-reaching implications' of missile-firing submarines had not been given adequate coverage, and, having educated him as to the benefits of a submarine-launched missile system, offered to send a 'full article for publication' prepared by the Admiralty.[95]

This subterfuge can be seen at a more official level in a personal letter of January 1958 that Selkirk sent to Quintin Hogg, making the Admiralty's motivations for following this course clear. Selkirk was 'very anxious to percolate slowly but gradually into the minds of our colleagues' the possibilities of missile-firing submarines, which he believed would be operational by 1961, adding that 'nobody is as yet ready' to properly consider putting the main body of the British deterrent out to sea, and voicing his

concerns that the Air Ministry would consider Polaris an 'offensive red herring'. Selkirk was sure that by '1967 or so missile sites will be out of this island and at sea', and he wanted to put Polaris in the frame before the government became irreversibly committed to Blue Streak, enlisting Hogg as a 'neutral' supporter.[96] As well as being Selkirk's predecessor as First Lord of the Admiralty, Hogg was the Lord President of the Council, providing him with access to the Cabinet and to Macmillan, albeit whilst being outside of the departmental rivalries that existed within the defence policy-making process. Therefore, when Selkirk suggested that 'at a convenient time you might ask in Cabinet that some of the facts of this development be at least laid before it', he knew that, coming from Hogg, this initiative would be less likely to 'frighten the Chancellor' than had it come directly from an Admiralty looking for more money.[97]

This indirect approach was coupled with the inflow of information from friendly official sources. Edwin Plowden at the United Kingdom Atomic Energy Authority (which oversaw all aspects of British nuclear capabilities, including those relating to the deterrent) was one, and he was able to report to G. A. M. Wilson, the admiral with special responsibilities for nuclear propulsion at the Admiralty ('Rear Admiral Nuclear Propulsion'), that, whilst Macmillan was unconvinced by the nuclear-powered submarine in relation to existing naval plans, 'not enough has been made of the deterrent value of the polaris [*sic*] carrying submarine'.[98] This inter-departmental support was also boosted in January 1958 when a delegation from the Royal Aircraft Establishment visited American ballistic missile development installations. With no service affiliation, the delegation was able to present a comprehensive report on American progress across a number of different systems that said American thinking was moving towards the belief that missiles based underground (such as Blue Streak) would still prove vulnerable if the enemy could bring enough explosive power to bear on their launching sites, and that the cost of building silos strong enough to withstand any eventuality would prove 'prohibitive'.[99] The report also claimed that the 'only solution to the ultimate maintenance of a useful weapon system lies in a great diversity of launch points', and in a smaller weapon of increased accuracy. Polaris was then cited as a 'very real technical advance', unlike Thor, and given its own detailed section which claimed that Polaris would enter full service in the United States Navy by June 1963.[100]

The Admiralty began to campaign more openly in the wake of this report, setting up a working party under the Vice Chief of the Naval Staff

to 'examine various aspects of the employment of POLARIS missiles in submarines'. This concluded that Britain would gain 'considerable strategic advantages' with Polaris, albeit whilst recognising the 'many hurdles' ahead of the Admiralty; chief amongst which was the 'virtually inevitable' conflict between Polaris and Blue Streak. This conflict was held to be inevitable as the British Polaris system would have to be constructed in Britain to 'avoid the political disadvantage of not having the deterrent completely under U.K. control'. Therefore, the working party warned the Admiralty that to pursue Polaris they would have to argue for a 'major revision' of existing deterrence policy.[101] This meant the Admiralty would have to find a way to have Blue Streak cancelled, and the report helpfully claimed that, not only would the construction of eight Polaris submarines (even if the missiles had to be bought from the United States) prove cheaper than Blue Streak, but that a crash Polaris programme could have its first submarine at sea only a year after Blue Streak was expected to be ready.[102]

The Board of the Admiralty questioned these optimistic projections, but it was decided that such 'factors governing the practicality' of the project should not be allowed to obscure the 'overwhelming' strategic advantages of exchanging Blue Streak for Polaris, which became a 'major naval objective'.[103] Yet, having decided upon this course, the Board urged caution. Expecting 'bitter opposition' from the Air Ministry was one issue, but they also worried that the Admiralty would be given the go-ahead to pursue Polaris without seeing their spending allocation increased. On the other hand, 'if time were allowed for the great advantages of POLARIS over BLUE STREAK to sink in', the most 'natural' outcome would be for the Navy to receive money allocated to Blue Streak. It was decided that the Admiralty would wait for Macmillan to make further enquiries about Polaris, and, when he did, that they would emphasise the 'greater certainty of control' Polaris offered in order to undermine what had become a contentious issue with Blue Streak—that it was ineffective as a retaliatory weapon system as its preparation time left only a small window in which to properly consider using it.[104]

The Conflict with Blue Streak

In April Sandys asked Selkirk for a paper on the 'future potentialities of rocket weapons launched from submarines' in order to discuss it with the Admiralty, the Air Ministry, the Ministry of Supply, and 'technical experts of the three departments'.[105] There is no suggestion that Sandys had delib-

erately stacked the odds against the Admiralty in this instance, but the Air Ministry and the Ministry of Supply were hostile to Polaris, and Selkirk's paper was subject to attacks from the former.[106] They said that Admiralty assumptions were based upon 'unproven American data', and reminded Sandys that the deterrent was not only based on the land-based ballistic missiles used in the Admiralty's comparisons, but also 'aircraft with free falling and guided bombs' offering just as much flexibility as the Admiralty claimed for Polaris. The cost of Polaris was also doubted, as were its claims of invulnerability. Here the Air Ministry thought that they had detected a major hole in Admiralty thinking. If putting the deterrent out to sea would act to draw any Soviet nuclear attack away from the British mainland, would that not suggest that they were able to detect and destroy the Polaris submarines (which would be far easier to destroy than Blue Streaks in hardened silos)? This was itself only a minor drawback, arguing as it did that Britain would then lose the war whilst not being quite as devastated as it otherwise might have been; but, coupled with the contention that having more time 'to decide whether to retaliate or not' might act to reduce the will to do so, this hit upon Sandys' critical belief that the nuclear deterrent had to present a credible threat. As the Air Ministry put it: 'Retaliation must be a prompt reflex action—if it is not the certainty of it is reduced.'[107]

Polaris' momentum had rattled the Air Ministry, and the Admiralty began to argue that, were it adopted, the shape of both the Navy and the Air Force 'could hardly be preserved'. Their response to the Air Ministry answered each of their criticisms, the most important from their perspective being in relation to the 'unproven American data' and the credibility of Polaris as a nuclear threat. To rebut the former it was pointed out that Polaris was 'two or three' years ahead of Blue Streak, so this also applied to British weapons; and the latter issue was answered with accusations that the Air Ministry had missed the point 'presumably intentionally'. The Admiralty had not meant to argue that Polaris would draw any Soviet nuclear bombardment away from the mainland. They simply meant that Polaris would not attract an attack on Britain. The trivial strategic nature of this point was revealed when the Admiralty said that, in the event of global war, an attack on Britain would still be expected, but they argued that 'such an attack would no longer affect the deterrent', and claimed that Polaris would prove 'practically immune to any form of counter attack'.[108]

It is easy to see from these early exchanges how Polaris presented Sandys with difficulty. Whilst he had expected a devastating Soviet bom-

bardment to open (and promptly decide) any global war, the claims of immunity advanced by the Admiralty tapped into his concept of Britain's nuclear capability, as his support for ballistic missiles was based upon the 'lack of effective counter-measures' first noted in November 1944. If what the Admiralty described as the 'silent, stationary submarine in plenty of sea room' was also immune to countermeasures, then it was the equal of any land-based ballistic missile.[109] It is, therefore, revealing that, as he wavered over the summer of 1958, Sandys made no attempt to advance Polaris as the most suitable alternative to Blue Streak, and his September memorandum (in which he recommended its cancellation in favour of Thor and a more advanced weapon) made no mention of Polaris. He concentrated instead on measures aimed at 'remain[ing] in the rocket business'.[110] Having been presented with both sides of the argument, failing to include even a passing reference to Polaris is conspicuous. After all, he was not anti-submarine. His concept of naval warfare had developed around the idea that Soviet submarines were the biggest threat to NATO at sea. This could be explained if Sandys still felt himself unable to make any sort of decision on Polaris; but his approach to it over the winter of 1958 makes it harder to give him the benefit of the doubt, pointing instead towards an inherent hostility to moving the nuclear delivery system away from land-based ballistic missiles, regardless of what the alternatives might have offered.

When Sandys visited Washington after the circulation of his September memorandum, he discussed Polaris only in terms of its potential as a land-based system, dismissing attempts to inform him of submarine developments by claiming that he 'fully understood these problems', and asking instead whether it might provide the basis for Blue Streak's successor.[111] This was disappointing for the Admiralty, as Mountbatten had enlisted the United States Navy to help him convince Sandys of Polaris' benefits. Writing to Arleigh Burke, their Chief of Naval Operations, Mountbatten asked whether he could arrange to meet Sandys' Chief Scientific Advisor, Frederick Brundrett, who Mountbatten knew from their time at the Royal Navy Signal School. Mountbatten described Brundrett as 'one of my oldest friends' and a 'true friend of the Navy', hailing his 'sound and excellent advice to the Minister' as the main reason for the Navy having emerged relatively unscathed from the White Paper. Now Mountbatten was keen for Polaris 'not to be excluded' from the debates surrounding Blue Streak, so he asked Burke to 'spare a few minutes' in support of the Admiralty, and to fill Brundrett in on the latest developments.[112]

By mid-October the Admiralty realised that Sandys had not been convinced in Washington, with an internal note detailing how he 'dismisses solid fuel weapons' as being 'inherently short on range', as well as prohibitively expensive for Britain.[113] Even though the promise of American help could have brought Britain up to speed within three years, commencing research into solid fuel weapons might well have been expensive; but it seems odd that Sandys would rule any particular fuel out as being 'inherently' weak. Even according to his own questionable version of events, it was the issue of fuel that had led to doubts over whether the Germans were capable of developing a long-range rocket, and now Sandys was guilty of disregarding information that conflicted with his preconceived notions. Then it had been the so-called 'rocket experts' who had ruled it out because they themselves could not conceive of a suitable propellant, and here he was following their lead, despite having been told in Washington that by 1963 the United States would possess a solid fuel missile with a range of 5500 miles.[114] Fearing that the continuation of Blue Streak might see Polaris 'shut out for ever', Mountbatten suggested that the Admiralty come to the defence of Thor. If the Admiralty could refute Sandys' objections to its lifespan and range, they could then make better use of the constant stream of updated Polaris information in order to make a better case for it being preferable to Blue Streak.[115]

The claim that Sandys was inherently hostile to Polaris can be strengthened by taking his follow-up memorandum of 3 November (in which he had rediscovered his enthusiasm for Blue Streak) into consideration. This mentioned Polaris, but ruled it out across a number of questionable points:

> As an addition to our armament it would be very desirable; but the development of this kind of weapon is not sufficiently advanced for us to stake everything upon it. Moreover, the yield of the POLARIS warhead is only about one tenth of the yield of the warhead that could be carried by BLUE STREAK. It is unlikely that a submarine-launched weapon could have the same degree of accuracy as one launched from a fixed base on land. Because of its small size, the warhead is very wasteful of fissile material and correspondingly expensive. In addition to the cost of the weapons, it would, of course, be necessary to construct six or eight large rocket-launching submarines, which would be extremely expensive.[116]

His comments about the accuracy of Polaris were pure speculation; Blue Streak could hardly have been described as 'sufficiently advanced' at this

stage (although 'extremely expensive' certainly applied); and Sandys of all people ought to have appreciated that warhead development would have eventually allowed for smaller megaton devices. The dismissive nature of this assessment prompted Selkirk to write directly to Macmillan, circumventing the January directive, objecting to Sandys having made no reference to strategic considerations before discounting Polaris, adding that the 'vast sums' being devoted to the project in America meant that Polaris was 'already years further advanced than BLUE STREAK'.[117] Sandys remained equally vague in the 5 November Defence Committee meeting, during which he recovered his support for Blue Streak, mentioning that he had become convinced Blue Streak could work having become aware of unspecified new technologies 'after discussions in the United States'.[118] The Admiralty might not have been aware that these discussions ought to have invalidated his concerns about solid fuels, as nobody challenged him on this point, but Polaris was placed on the agenda, and Sandys later wrote to Selkirk requesting a note on the effectiveness of Polaris when 'both fitted in submarines and in merchant ships'.[119] Including surface vessels could suggest that Sandys was slightly behind on Polaris-related thinking, or it could have been a deliberate attempt to cloud the issue; but Selkirk dismissed this idea, concluding that submarine-launched missiles were the 'solution' to Britain's need for an effective nuclear capability 'while so restricting the effort involved'.[120]

In his 16 November memorandum that reiterated his support for Blue Streak, Sandys included much of what Selkirk had sent him, generously admitting that Polaris offered 'certain very important theoretical advantages over any land-based system'. Having done so, he restated his previous concerns. Costs were cited, as was the 'feasibility' of something that was 'by no means fully proved' (references to what 'the Americans hope' add a sceptical tone to this memorandum), and the explosive yield 'of less than half of that of THOR'. Sandys said that Britain would need eight fully-equipped submarines, and, whilst this would have been a real alternative to Blue Streak, 'it is not yet certain that the POLARIS project, with its immense technical complications, will necessarily be successful'.[121] Clark has said that Sandys made a 'convincing case' for Polaris, having become 'sufficiently interested' to monitor its progress.[122] Sandys did say he would 'watch the progress' of Polaris, but this seems like a sop to the Admiralty when considered alongside his previous memorandum talking about how he would welcome Polaris as an 'addition to our armament', knowing that this would be impossible whilst insisting that Blue Streak continued

'as now planned'.[123] He had used a similarly false concession during the Radical Review to conceal the true extent of his opposition to aircraft carriers, so we should avoid reading too much into his willingness to monitor Polaris. That he was taking it more seriously simply meant that his own campaign against it had to become more serious.

It did not take Sandys long to suggest the Soviet Union would eventually get the better of Polaris. They might track submarines from their point of departure, and it was even claimed that they might destroy them in peacetime by sinking them under the polar ice caps, where any accident could not be properly investigated.[124] If this was the best Sandys could come up with, then the Admiralty stood to benefit from Polaris being debated more openly (although Sandys had just told the Commons that the question of acquiring Polaris 'had not yet arisen)'.[125] They also received information from the British Joint Services Mission in Washington suggesting that Polaris' range could still be increased dramatically, with 2000 miles deemed possible by early 1964, and 2500 miles not long afterwards.[126] Whilst this was going on, the Air Ministry began to press for an updated bomber. They still believed that counter-measures to Sandys' preferred land-based ballistic missiles 'will certainly be developed eventually', and George Ward, the Secretary of State for Air, told Sandys that the Air Staff wanted an aircraft that could take off vertically, possessed 'Good endurance using flight refuelling if necessary' and could carry both 'long range powered bomb[s]' and non-nuclear weapons. If these conditions could be met Ward believed that speed was not important, listing the benefits of such an aircraft as follows:

1. Would be independent of fixed and vulnerable bases for long periods.
2. Could take off at short notice.
3. Could remain airborne and poised for attack under positage [*sic*] (positive) control, without becoming irrevocably committed.
4. Could mount a flexible attack from any point on the Soviet or Chinese perimeter very quickly.
5. As an instrument of national policy could continue the important role played by the 'V' bombers not only as a deterrent but also in cold and limited wars.[127]

It might not have been immediately obvious to Ward, but these points were exactly (save for the direction of vertical travel) what the Admiralty

were using to push Polaris. The Air Ministry was forced to attack Polaris on similar lines to Sandys, citing its cost, as well as supporting the fanciful idea about the Soviet Union staging accidents at sea, and calling the flexibility of Polaris into question by helpfully pointing out that submarines were slower than aircraft.[128]

Selkirk wrote to Sandys to complain about what he perceived as another failure to consider Polaris 'objectively and correctly', but made little fuss about this latest round of Air Force attempts to strengthen their hold on Britain's nuclear capabilities.[129] This was because, whilst the Admiralty had pushed Polaris with caution due to its unproven qualities, they were also constrained by their lack of enthusiasm for an independent deterrent capability. We have seen how, during the Radical Review, the Navy reversed Sandys' arguments by asking why Britain could depend on America at sea but not hide behind Strategic Air Command, and they had stayed true to this point. Throughout the 1950s the Navy had concerned itself with the issue of nuclear sufficiency (the point where the Soviet Union acquired the capabilities to devastate the United States).[130] This had been touched upon in May 1957, but began to attract serious discussion in January 1958 when the Joint Planning Staff reported to the Chiefs of Staff on the likely nature of global war in 1970. Boyle felt that the 'rapid and unpredictable' course of technological development made a nonsense of planning for a war twelve years away; and besides 'our policy was the avoidance of war'.[131]

The report had started out as a naval study, and another version was produced that spurred the debate on. The report did not actually undermine the Air Force, stating that it would become 'even more important' to maintain both a worthwhile deterrent capability (and the will to use it), recommending that British defence policy should continue down its current path.[132] Boyle now happily accepted the report 'as it stood', but Mountbatten, and Gerald Templer, the Chief of the Imperial General Staff, demurred. Templer wanted 'major amendments' if the deterrent was no longer effective 'except in certain areas vital to one side or the other', whilst Mountbatten had 'never agreed that the current Government policy … would necessarily remain valid after nuclear sufficiency'. He said that the value of nuclear deterrence 'depended upon the extent to which it was believed in', which for Britain meant that a truly independent capability was irrelevant, as it was 'unlikely' that the Soviet Union would believe that Britain would use its nuclear weapons against them without full American backing.[133] This potentially opened the door for a re-examination of the

nuclear/non-nuclear balance of forces that the White Paper had altered; but, more importantly for Polaris, it meant that the British deterrent did not have to be based upon an independent weapon system. Polaris bought from the United States, even with certain conditions on its use, would have been suitable in this new age of nuclear sufficiency.

This conflict in naval thinking came to a head in 1959 as the campaign in support of Polaris became more overt. In January it was agreed that the basis for the British nuclear capability would be subject to a rigorous examination, which the Ministry of Defence expected would take six months.[134] Sandys accepted this timeframe because Blue Streak was going ahead as planned, and because he assumed that each system would be assessed in relation to the government's existing policies. This put pressure on the Admiralty to prove their case, and Mountbatten wanted to know whether or not the government would continue to pursue its existing definition of 'independence'.[135] Sandys immediately began sowing doubts about Polaris, claiming that it would soon be just as easy to pinpoint the location of a submarine as a land-based missile.[136] When the Admiralty heard about this they shrugged it off, saying that if Sandys was right then they would like to know how to do it.[137] The claims of invulnerability associated with Polaris were its strongest suit, and, when the Admiralty received word that the United States Deputy Secretary of Defence was visiting London to discuss early warning systems and anti-ballistic missile missiles, which were expected to be fantastically complicated and expensive, they reacted by saying that this 'really does put BLUE STREAK out of court'.[138]

In order to refute Sandys' doubts about the invulnerability of Polaris, Mountbatten had written to Burke asking for all the information he had.[139] It was also reported within the Admiralty that, although the Ministry of Defence was willing to envisage the use of solid fuel missiles, whether land-based or submarine-launched, 'they are highly skeptical [*sic*] of any such development, if not actually opposed to it'.[140] This was another way for Sandys to defend Blue Streak, even though he had received the information about extending Polaris' range in December, but the Admiralty were boosted by Burke telling Mountbatten that he expected to have five submarines out on patrol by mid-1961, and promising to keep him supplied with all the information 'which our laws permit'.[141] Mountbatten replied, asking for 'all the ammunition we can possibly get', as 'speed is of the utmost importance', and Burke answered positively, saying it was a 'never ending source of wonder' that people

still questioned submarine-launched missiles. Even the most devastating land-based systems would have their locations known by the enemy. This was their 'great defect':

> If, possessing this knowledge, the Soviet believes that he is capable of destroying these sites before they can react to his attack, then deterrence has failed, regardless of whether or not the Soviets are correct in the belief … If the deterrence fails to deter, the arguments of the proponents of land-based systems, that they can achieve some degree of invulnerability by hardening, dispersal, holes-in-the-ground, etc., become academic because the general war will have commenced.[142]

This argument would have represented a declaration of open warfare against Sandys' policy preferences. Yet, somewhat curiously, the momentum built up since the beginning of 1958 immediately began to slip away from the Admiralty. Charles Lambe, who was responsible for the introductory quote about Sandys doing 'all in his power' to protect Blue Streak, used the same internal note to urge caution. Lambe was the *de facto* First Sea Lord by May 1959, his appointment delayed only until Mountbatten could succeed Dickson as Chief of the Defence Staff, and he warned that it would be 'very unwise for the Admiralty to stick its neck out too far'. Lambe was fully aware of what Sandys wanted to happen, having apparently admitted suspending the investigation into the future deterrent as 'he did not wish the validity of BLUE STREAK to be questioned'. In spite of this, he put his faith in Mountbatten, arguing that the Navy would be stronger 'if we were (at any rate, apparently) pushed into the POLARIS project'. He wanted to see the 'propaganda' operation halted, and for the Admiralty to build a convincing case for Polaris in the background to 'answer any queries when they come—as, in my view, they undoubtedly will'.[143] Selkirk tried to convince Lambe that Blue Streak was becoming more secure by the day, and, that if Polaris was to be taken on, 'we must be prepared to make the running ourselves', but he was unsuccessful.[144]

Conclusion

Historians have noted this loss of momentum in the Admiralty campaign. Richard Moore wrote that Mountbatten maintained a 'studious silence' when he ought to have been pushing Polaris as Blue Streak's successor

from mid-1959 onwards, which he attributes to the aforementioned Admiralty belief that there was no need for an independent capability, and that once Blue Streak had been cancelled the United States was unlikely to provide weapons for such a capability.[145] Clark has also highlighted the 'two contradictory goals' of playing down the need for an independent nuclear capability whilst also backing Polaris in a 'self-conscious programme for wresting the deterrent from the RAF'.[146] By contrast, Ken Young has argued that the Polaris lobby knew time was on their side as they quietly developed their 'powerful and well-informed case' expecting Blue Streak to fail.[147]

Whether the campaign stalled as a result of imprecise thinking or political opportunism, the efforts of those backing Polaris can be held in stark contrast to the logically consistent and plainly stated policy preferences with which Sandys approached the acquisition of an independent British nuclear capability. The Admiralty claimed that Polaris possessed all of the qualities that made land-based ballistic missiles Sandys' preferred method of obliterating the Soviet Union, but Sandys maintained an aversion to the submarine-launched alternative throughout. Resorting to criticisms that might have been applied to Blue Streak by similarly unsympathetic parties, Sandys was never able to make a truly convincing case against Polaris. Indeed, his cognitive dissonance over the question of solid fuels would suggest that he did not even intend to. Provided he could bring the weight of the Ministry of Defence and its esteemed scientific advisors to bear, he only had to convert the uncertain to following the kind of Ministry of Defence orthodoxy that he had previously campaigned against. This was also the case with Thor. Where Macmillan and others saw the benefits of buying the British nuclear capability 'off the shelf', Sandys worked to prevent Thor being seen as anything more than an interim measure. The main lesson to be taken from the debates surrounding Thor was that Sandys was fully committed to Britain being able to unilaterally inflict significant damage on the Soviet Union, and how this led directly into his approach to Blue Streak. Chapter six will use this belief in the need for a truly independent nuclear capability as the base explanatory means for understanding Sandys' thinking and actions in respect of Blue Streak. It was this idea, coupled with his long-standing belief in the qualities of ballistic missiles, that informed his support for Blue Streak, and which eventually left him isolated and forced to defend his long-term advocacy of a failed weapon project.

Notes

1. Charles Lambe to Selkirk: 25 May, 1959; ADM 205/202.
2. That Britain would also receive them without the American warheads that would have undermined their operational independence seemed to make this the ideal solution; see: 'SKYBOLT: Note by the Minister of Defence, 20 June, 1960'; CAB 129/101 C. (60) 97; Macmillan wrote in his diary on 20 February, 1960: 'The Chiefs of Staff want to abandon Blue Streak and have a *mobile* rocket, prob[ably] POLARIS, to be carried on a submarine. The arguments include question of a new American air to ground missile, wh[ich] may increase the life of the present Bomber force by 3 years of more'; Catterall, *The Macmillan Diaries: 1957–1966*, p. 272; an informal understanding was also made for facilities to be made available for American Polaris submarines in Scotland, the precise details of which were painstakingly worked out over the rest of the year.
3. The Head of the Diplomatic Service later described this as the Prime Minister's 'veteran of the Somme' act. Philip de Zulueta, Macmillan's Private Secretary, recalled Macmillan directly alluding to the 'great losses and the great struggles for freedom and so on' that their two nations had endured; Hennessy, *The Secret State*, p. 65; Sampson writes that Macmillan's 'memories of Passchendale gave him authority' when discussing disarmament with Kennedy; Sampson, *Macmillan: A Study in Ambiguity*, p. 226; see also: Ball, S. J., 'Macmillan and British Defence Policy' in Aldous, R. and Lee, S. (eds.), *Harold Macmillan and Britain's World Role* (London: Macmillan, 1996), pp. 67–96 and Murray, D. 'Macmillan and Nuclear Weapons: the SKYBOLT Affair' in Aldous, R. and Lee, S. (eds.), *Harold Macmillan: Aspects of a Political Life* (London: Macmillan, 1999), pp. 217–242.
4. Boyes, J., *Project Emily: Thor IRBM and the RAF* (Stroud: The History Press, 2008), p. 45.
5. Hansard HC vol. 553, col. 1283 (7 June, 1956).
6. *The Times*' science correspondent had taken Macmillan's brief answers straight after the first test as a 'guarded confirmation' that the device had produced a megaton yield, which he referred to as 'a hydrogen bomb in the popular sense'; '"Device" a Hydrogen Bomb'; *The Times*: 17 May, 1957.

7. Hansard HC vol. 570, col. 1035 (21 May, 1957); the political value of a functioning megaton device was made clear the following day when Macmillan told a meeting of Conservative women that the tests would put Britain 'in the same position as the United States or Soviet Russia', and used these developments to defend the White Paper. Having had his usual fun at the expense of Labour, Macmillan also told his audience that he would 'never agree' to nuclear disarmament without a similar reduction in non-nuclear weapons, since such a move would not end the prospect of any new global war as disarmament advocates claimed, but 'merely make it virtually certain that if it came we should lose it'. He reinforced this point by recalling that 'I was in a conventional war across the Channel. Just 40 years ago in the long drawn-out battle of Passchendaele we suffered nearly 400,000 casualties … We must not forget that—nor our losses in the Second World War'; 'Mr. Macmillan Defends Policy on Hydrogen Bomb'; *The Times*: 23 May, 1957.
8. 'Second British Nuclear Test in the Pacific'; *The Times*: 1 June, 1957.
9. There was a further disappointing test on 19 June.
10. CAB 131/18 D. (57) 6th Meeting: 31 July, 1957.
11. Macmillan, *Riding the Storm*, p. 300; McGeorge Bundy writes that Eisenhower 'allowed test suspension to become the first order of business for his senior negotiator Harold Stassen'; Bundy, M, *Danger and Survival: Choices About the Bomb in the First Fifty Years* (New York: Random House, 1988), p. 332.
12. 2 June, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, pp. 40–41.
13. Lloyd said that Britain would be 'seriously handicapped' by the proposals unless American 'know-how' was made available, adding that an early moratorium on the production of fissile material 'would completely disrupt our nuclear defence programme, largely deprive us of the deterrent and upset the whole basis on which our present defence planning is based'; 'Disarmament: Note by the Foreign Secretary, 21 June, 1957'; CAB 129/87 C. (57) 146; CAB 128/31 CC. (57) 46: 24 June, 1957.
14. 'Disarmament: Note by the Minister of Defence, 23 June, 1957'; CAB 129/88 C. (57) 151.

15. Sandys' archive contains files relating to this organisation, the aims of which were to 'establish eventually some form of World Government'. One report describes Sandys' visit to Poland on their behalf as 'wholly unproductive' owing to the Polish Government being 'exclusively preoccupied with the problem of central Europe and the fear of a German war of revenge; 'World Security Plan—Progress Report'; DSND 11/4/1; on a trip to New York over September and October 1966 he met Robert F. Kennedy and was put in contact with the United States Secretary of State Dean Rusk, the Secretary of Defense Robert McNamara, and noted multilateralist J. William Fulbright; DSND 11/1/18.
16. In a May 1976 House of Lords debate on European integration, Sandys said that the Council of Europe had never been 'an end in itself', describing it as the 'first step towards the achievement of a much larger and wider objective … in my view the objective should be nothing less than the eventual creation of a United States of Europe'; Hansard HL vol. 370, col. 966 (12 May, 1976); Bertrand Russell name-checked Sandys as an advocate of world government as the solution to the Cold War stand-off, suggesting that like-minded people who considered it to be the practical solution 'will encounter stubborn resistance in the two most powerful protagonists, namely, America and Russia'; Russell, B., *Common Sense and Nuclear Warfare* (London: Routledge, 2001), p. 59.
17. CAB 128/31 CC. (57) 46: 24 June, 1957; Norman Brook prepared a note for the Defence Committee that linked the 'effective measure of our authority as a world power' to 'our stock of fissile material', noting that 'At present we are still only a potential nuclear power. We shall not retain our influence in world affairs unless we go forward and turn the potential into a reality'; 'Fissile Material for Nuclear Weapons: Note by the Secretary of the Cabinet, 27 July, 1957'; CAB 131/18 D. (57) 14.
18. Extract of a Cabinet meeting on disarmament: 1 May, 1958; DSND 6/43.
19. 'Speech on Defence Resolution to be made by the Minister of Defence, Mr. Duncan Sandys, at the Conservative Party conference at Blackpool, Friday, October 10th, 1958'; DSND 6/17A.
20. He thought this would take between six and twelve months; transcript of Sandys' 12 March 1959 appearance on ITV's 'This Week'; DSND 6/22.

21. Over a hundred feet tall, and with four times the thrust that Sandys had predicted back in 1953, the descendants of the R-7 entered service from 1959 with the ability to carry megaton warheads to almost anywhere in the world. The fact that it had none of the 'birthmarks' of German technology also meant that the Soviet Union possessed an independent, world-leading missile programme and the strength of the design was underlined two months later when a modified version launched Sputnik 1, the first artificial Earth satellite, beginning the Space Race; Chetok, *Rockets and People–Volume II*, p. 73 and p. 347.
22. CAB 128/31 CC. (57) 72: 8 October, 1957; Macmillan recalled in his memoirs that the 'British public, with characteristic generosity, paid full tribute to this wonderful technical achievement'; Macmillan, *Riding the Storm*, p. 314.
23. 'We had "economic warfare" in the war. We may need it in the cold war'; Macmillan to Eisenhower: 10 October, 1957; PREM 11/2329.
24. Dwight D. Eisenhower to Harold Macmillan: 11 October, 1957; PREM 11/2329; the night Macmillan wrote to Eisenhower was also the night that the Windscale plutonium production plant caught fire. This could have ruined Macmillan's hopes of further nuclear cooperation with the United States by undermining confidence in Britain as a capable nuclear power, but internal reports that properly detailed the seriousness of the accident were suppressed by the government. Macmillan wrote in his diary, having returned to London, 'It is just such a report as the board of a company might expect to get. But to publish to the world (esp[ecially] to the Americans) is another thing. The publication of the report, as it stands, might put in jeopardy our chance of getting Congress to agree to the President's proposal'; 30 October, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, p. 69; 'Thus', writes Horne, 'the world's worst nuclear accident to date went largely unnoticed'; Horne, *Macmillan: Volume II*, pp. 53–55.
25. Macmillan to Eisenhower: 16 October, 1957; PREM 11/2329; CAB 128/31 CC. (57) 74: 21 October, 1957; 16 October, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, p. 65.
26. 'Briefing Notes for Meetings: 22 October, 1957'; PREM 11/2329.
27. 'Minutes of the Meeting at the British Embassy: 23 October, 1957'; PREM 11/2329.

28. 'The Russian success in launching the satellite has been something equivalent to Pearl Harbor. The American cocksureness is shaken'; 23 October, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, pp. 65–66.
29. Macmillan told him that 'if we couldn't get all this done in the next two or three years, with all the advantage of our close friendship, it was unlikely that our successors w[oul]d be able to do the job'; Ibid.
30. Dulles thought it was a 'fortunate coincidence' that Eisenhower and Macmillan led their nations at such a moment in history; 'Minutes of the Meeting at the White House: 24 October, 1957'; PREM 11/2329.
31. Ibid.
32. 'Report to the President and Prime Minister from Lewis Strauss, Donald Quarles, Sir Edwin Plowden and Sir Richard Powell: 25 October, 1957'; PREM 11/2329.
33. 25 October, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, p. 68.
34. 'Declaration of Common Purpose by the President and the Prime Minister of the United Kingdom: 25 October, 1957' reproduced in Eisenhower, D. D., *Public Papers of the Presidents of the United States: Dwight D. Eisenhower–Containing the Public Messages, Speeches, and Statements of the President, January 1 to December 31, 1957* (Washington: United States Government Printing Office, 1958), pp. 768–773.
35. Hansard HC vol. 577, col. 37 (5 November, 1957); this was coincidentally the day when news reached Macmillan that the Soviet Union had launched a dog into space aboard Sputnik 2. He noted the 'alarm and despondency' that this had created in the United States, whilst complaining that the 'English people, with characteristic frivolity, are much more exercised about the "little dawg" than about the terrifying nature of these new developments in "rocketry"'; 5 November, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, pp. 69–70.
36. Hansard HC vol. 577, col. 37 (5 November, 1957).
37. Hansard HC vol. 577, col. 39 (5 November, 1957).
38. Hansard HC vol. 579, cols 1262–1263 (11 November, 1957).
39. Macmillan to Anthony Eden: 17 February, 1957 cited in Horne, *Macmillan: Volume II*, p. 22.

40. Macmillan put great faith in the value of summit diplomacy as a result of his experiences in the Second World War. Richard Aldous has written that Casablanca showed Macmillan the 'stage on which he wanted to perform', and that 'The idea of emperors meeting to solve the problems of the world would later come to dominate his thoughts on diplomacy'; Aldous, R., *Macmillan, Eisenhower and the Cold War* (Dublin: Four Courts Press, 2005), pp. 16–17; for a contemporary account of Macmillan's preference for this kind of diplomacy, see: Fairlie, H. 'From Walpole to Macmillan' in *Encounter*, No. 89 (February, 1961), p. 60; the official report of the conference said that Macmillan and Eisenhower 'have conducted their discussions with the freedom and frankness permitted to old friends in a world of growing inter-dependence'; 'Final Communiqué from the Bermuda Conference: 25 March, 1957'; PREM 11/1837.
41. He had originally planned to compare Gamal Abdel Nasser, the Egyptian leader, to Mussolini ('It's like Mussolini—he started, in a way, as an Italian patriot. He ended up a[s] Hitler's stooge'), but there was no mention of this line in reports of his opening statement; 'Notes for Bermuda speech: 21 March, 1957'; PREM 11/1836; Minutes of the First Meeting at Bermuda: 21 March (10.30 a.m.); PREM 11/1838; because of his success, he was able to tell Butler, left to run the government back in London, that he detected in Eisenhower a 'genuine desire to forget our differences and to restore our old relationship and cooperation in full measure'; Macmillan to Butler: 22 March, 1957 cited in Horne, *Macmillan: Volume II*, p. 25.
42. It was agreed to increase intelligence cooperation, and it was informally decided that Britain would take a more direct role in gathering intelligence by hosting U-2 reconnaissance aircraft; Macmillan to Eisenhower: 23 March, 1957; PREM 11/1836.
43. Hansard HC vol. 568, col. 55 (1 April, 1957).
44. Ibid.
45. Hansard HC vol. 568, col. 56 (1 April, 1957).
46. Ibid.
47. 1 April, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, p. 26.
48. Maurice Dean to Ward: 4 March, 1957; AIR 19/856.
49. Record of Air Ministry meeting: 12 March, 1957; AIR 19/856; it was also felt in some quarters that taking Thor on would have

increased the pressure on Blue Streak to justify itself; Baylis, *Ambiguity and Deterrence*, pp. 252–253.

50. 'Control of Immediate Range Ballistic Missiles: Memorandum by the Chiefs of Staff, 22 January 1957'; DEFE 5/81, C.O.S. (58) 12; see also: DEFE 4/103, C.O.S. (58) 6th Meeting: 17 January, 1957.
51. They recommended that Thor only be accepted on a similar basis to the American bomber aircraft based in Britain, in so far as they would be 'financed, manned and operated by the U.S.A.', but with an agreement that gave Britain 'joint agreement' on their use; 'American Immediate Range Ballistic Missiles: Memorandum by the Chiefs of Staff, 29 January, 1957'; DEFE 5/81, C.O.S. (58) 23; see also: DEFE 4/103, C.O.S. (58) 7th Meeting: 21 January, 1958.
52. Navias, *Nuclear Weapons and British Strategic Planning*, p. 202.
53. Baylis, *Ambiguity and Deterrence*, p. 257; Clark, I., *Nuclear Diplomacy and the Special Relationship: Britain's Deterrent and America, 1957–1962* (Oxford: Clarendon Press, 1994), p. 164 and pp. 169–172.
54. Navias, *Nuclear Weapons and British Strategic Planning*, p. 219.
55. Throughout the text 'unilateral independence' is alternatively referred to as 'true independence' and 'total independence'; Ibid., pp. 130–131.
56. Ibid., p. 131; Groom writes that 'The prime British aim was for influence through co-operation, and not insurance through independence, although the claim of independence was not without its uses'; Groom, *British Thinking About Nuclear Weapons*, p. 209.
57. 'Review of Defence Expenditure: 15 June, 1953'; DNSD 4/1/1.
58. 'Defence Policy and Expenditure: 20 November, 1953'; DSND 4/1/1.
59. *Defence: Outline of Future Policy*; DSND 6/52.
60. Hansard HC vol. 568, cols 1760–1761 (16 April, 1957).
61. 'Intermediate-range Ballistic Missiles: Memorandum by the Minister of Defence, 11 February'; CAB 129/91 C (58) 40.
62. CAB 128/32 CC (58) 16: 12 February, 1958; CAB 128/32 CC (58) 17: 18 February, 1958.
63. Hansard HC vol. 583, col. 32 (24 February, 1958); *Supply of Ballistic Missiles by the United States to the United Kingdom* (London: HMSO, 1958) and its 'Unpublished Understandings' can be found in AIR 19/943.

64. DEFE 4/107, C.O.S. (58) 45th Meeting: 20 May, 1958.
65. CAB 131/19, D (58) 15th Meeting: 25 July, 1958.
66. CAB 131/19, D (58) 16th Meeting: 1 August, 1958.
67. The Committee agreed that such a programme 'would constitute a further concrete example of interdependence'; Ibid.
68. 'Ballistic Rockets: Memorandum by the Minister of Defence, 8 September, 1958'; CAB 131/20, D (58) 47; CAB 131/19, D (58) 18th Meeting: 10 September, 1958.
69. 'General Introductory Discussion: 22 September, 1958' in 'Record of Meetings held at the Pentagon and State Department, Washington, D. C.: September 22–25, 1958'; DSND 6/37.
70. 'General Review of Policy–Procurement of Thor IRBMs; Future Deployment of British Forces and Nuclear Sufficiency: 24 September, 1958' in Ibid.
71. Ibid.
72. 'Ballistic Rockets: Memorandum by the Minister of Defence, 3 November, 1958'; CAB 131/20, D (58) 57.
73. Sandys said that 'if an independent British contribution to the nuclear deterrent were to be maintained after the mid-1960's, the intermediate-range ballistic rocket BLUE STREAK should continue to be developed with the aim of starting deployment of these weapons in 1965'; CAB 131/19, D (58) 24th Meeting: 5 November, 1958.
74. 'Ballistic Rockets: Memorandum by the Minister of Defence, 16 November, 1958'; CAB 131/20, D (58) 63.
75. *Sandys Memoir*, 17/B/1.
76. Baylis has written that whilst interdependence with the United States was the government's preferred strategy, 'considerable uncertainty existed amongst political and military leaders over the reliability of the United States in the rapidly changing strategic environment of the late 1950s', giving rise to 'contradictory trends in British nuclear strategy'. This would go some way towards explaining Sandys' various statements and Baylis' contention that historians have tended to underestimate the 'genuine interests in some quarters in more independence', which he believes are best illustrated in the debates that took place over Thor, would certainly be applicable to Sandys; Baylis, *Ambiguity and Deterrence*, p. 242.
77. Transcript of Sandys' 12 March 1959 appearance on ITV's *This Week*; DSND 6/22.

78. The government became so desperate to claim that it was an operational weapon that Harold Watkinson, Sandys' successor as Minister of Defence, considered the argument that 'as with a bomber aircraft not loaded with bombs, THOR was operational if it was on the launching pad ready to go'. The fact that it lacked a warhead, and thus a nuclear capability, was apparently irrelevant; 'The Operational Capability of Thor: 3 November, 1959'; AIR 19/1069.
79. Philip Ziegler writes that Mountbatten came to possess 'grudging admiration and even affection' for Sandys, citing their shared views on the future of the defence Establishment and their membership of the Magic Circle as having led to a 'real *recherché* bond'. It was later said that he had to persuade Sandys 'once a month' about the value of aircraft carriers, which he did so by entertaining him at his lavish country residence. Ziegler, P., *Mountbatten: The Official Biography* (London: Collins, 1985), p. 549–560; Way's contributions to 'Defence Turning Point', pp. 31–32.
80. 'The Fleet Air Arm: Memorandum by the Chiefs of Staff, 19 February, 1957'; DEFE 5/73, C.O.S. (57) 44.
81. 'Review of Defence Plans: Note by the Minister of Defence, 22 February, 1957'; AIR 2/14712.
82. 'Defence White Paper: Draft B, 13 March, 1957'; ADM 205/114; Sandys' personal copy of *Defence: Outline of Future Policy*; DSND 6/52.
83. 'Admiralty views on the V-Bomber Force', note by the Admiralty circulated by Sandys on 29 July, 1957; CAB 131/18 D. (57) 18.
84. These were the Tiger-class cruisers, which were now so close to being completed that Sandys had little option but to accept them. This was in spite of the fact that they were not particularly modern, as their construction had actually started during the Second World War, only for their completion to be delayed by post-war austerity measures and previous defence reviews; Sandys' personal copy of *Defence: Outline of Future Policy*; DSND 6/52; Grove writes that as Minister of Defence Macmillan supported the Navy in a memorandum 'that could have come from the Admiralty itself'; Grove, *Vanguard to Trident*, p. 114.
85. 'Role and Composition of the Navy: Memorandum by the Minister of Defence, 14 November, 1957'; CAB 131/18 D. (57) 28.
86. 'Role of the Navy: Memorandum by the First Sea Lord, 15 November, 1957'; CAB 131/18 D. (57) 29.

87. 'Role and Composition of the Navy: Memorandum by the Chiefs of Staff, 4 December, 1957'; DEFE 5/80, C.O.S. (57) 263.
88. Mountbatten was told about Polaris in November 1955 by Arleigh Burke, the Chief of Naval Operations in the United States Navy. Mountbatten recalled that Burke had tried to talk the Air Force into converting Thor to run on solid fuel so that it could be launched from submarines. When they refused, Mountbatten offered him the support of the Royal Navy and it was agreed that a 'handpicked RN officer, with missile experience' would be sent out to become Mountbatten's special representative on the Polaris project; Grove, *Vanguard to Trident*, pp. 233–234; Bundy, however, writes that Burke had tried to go into partnership with the United States Army to 'prevent an air force monopoly', before breaking away from their Jupiter project in favour of a smaller solid fuel missile; Bundy, *Danger and Survival*, pp. 327–328; in Britain the Navy had been thinking about surface ships and submarines as the ideal launch platforms for ballistic missiles since 1945; see: Young, K. 'The Royal Navy's Polaris Lobby, 1955–1962' in *The Journal of Strategic Studies*, Vol. 25, No. 3 (September 2002), p. 59; Baylis and Stoddart, *The British Nuclear Experience*, p. 26.
89. Aubrey Jones to Sandys: 29 May, 1957; AIR 19/942.
90. Macmillan to Selkirk: 7 August, 1957; DEFE 7/2162.
91. Selkirk to Macmillan: 12 September, 1957; DEFE 7/2162.
92. 'Performance of Nuclear Submarine: 30 October, 1957' and 'The Threat of the Nuclear Submarine: 30 October, 1957'; ADM 1/27796.
93. He actually seemed too impressed for Mountbatten, who wrote to the Commander-in-Chief of the Home Fleet to warn him that because Sandys was 'given to reaching sudden conclusions', there was a 'very real danger' that he would 'decide that the nuclear-propelled submarine has made our present Navy completely obsolete'. This was probably more a case of Mountbatten projecting his own 'sudden conclusions' onto Sandys' modernising zeal; Macmillan wrote in his diary on 21 June 1957 that 'We do not want this visit. The Americans, untruthfully say (for commercial purposes) that our Calder Hall reactors are not safe. The Admiralty replies by inviting (without a word to me) the US atomic submarine to Plymouth!'; Catterall, *The Macmillan Diaries: 1957–1966*, p. 44.

94. 'Missiles from Submarines'; *The Times*: 19 November, 1957.
95. Selkirk to William Haley: 21 November, 1957; ADM 1/27375.
96. Selkirk to Quintin Hogg: 1 January, 1958; ADM 1/27375.
97. Ibid.; Young writes that Hogg was 'sympathetic' to a submarine-based deterrent; Young, 'The Royal Navy's Polaris Lobby', p. 61.
98. G. A. M. Wilson to Selkirk: 6 January, 1958 (the printed date is 1957, but this has been corrected by hand); ADM 1/27375.
99. 'These remarks stem largely from the Space Technology Laboratories Inc. (Dr. Simon Ramo) and the U.S. Air Force Ballistic Missile Division. They are not official statements'; 'Technical Notes on the American Ballistic Missile Programme: January, 1958'; AVIA 6/25549.
100. Ibid.
101. 'POLARIS: Report of Working Party and Proposed Future Action, 27 March, 1958'; ADM 1/28949; the chairman of the working party listed the 'salient points' of the report as follows: 'Dependence on BLUE STREAK will freeze strategy into a shape incapable of adaptation. The ability to employ a different kind of missile … will help to maintain the traditional and well proved British policy of flexible defence preparation, adjustable to all strategic circumstances … There can be no question that the POLARIS submarine, with its flexibility and relative invulnerability, provides a weapon which has significant advantages over the missile fired from fixed sites on land … It is practically invulnerable from neutralisation by surprise attack'; 'The Polaris Submarine: Cover note by Chairman of Polaris Working Party'; ADM 1/28949.
102. Ibid.
103. 'Board Minutes: 27 March, 1958'; ADM 1/28949.
104. Ibid.
105. Sandys to Selkirk: 3 April, 1958; AVIA 65/1888.
106. 'Polaris: Paper for the Ministry of Defence, 21 April, 1958'; AVIA 65/1888. There is also a copy of this report in ADM 1/27375.
107. 'Polaris and the Nuclear Submarine: Note by the Air Ministry, 2 June, 1958'; ADM 1/27375.
108. 'Polaris: Reply to questions raised by Air Ministry, 30 June, 1958'; ADM 1/27375.
109. Ibid.
110. 'Ballistic Rockets: Memorandum by the Minister of Defence, 8 September, 1958'; CAB 131/20, D (58) 47.

111. 22 September, 1958' and 'Co-operation in Missile Development (1): 23 September, 1958' in 'Record of Meetings … Washington, D. C.: September 22–25, 1958'; DSND 6/37.
112. Louis Mountbatten (Lord Mountbatten) to Arleigh Burke: 16 September, 1958; ADM 205/202; this letter to Burke was complemented by a more anxious letter to Robert Elkins, the Navy representative at the British Joint Services Mission. Here Mountbatten spoke of an 'extremely hot topic' that he did not want to risk being leaked even by secure signal. He informed Elkins of the uncertainty over Blue Streak, and claimed that Brundrett was well disposed towards the Navy acquiring Polaris. In order to capitalise on this he urged Elkins to also work towards getting Burke to meet Brundrett; Mountbatten added a handwritten post script that reads: 'On second thoughts I think it would be as well to let Arleigh have my letter'; Mountbatten to Robert Elkins: 16 September, 1958; ADM 205/202.
113. Mountbatten to Selkirk: 17 October, 1958; ADM 205/202.
114. 'Co-operation in Missile Development (1): 23 September, 1958' in 'Record of Meetings … Washington, D. C.: September 22–25, 1958'; DSND 6/37; this was the Minuteman, modified versions of which still form a substantial element of the American nuclear deterrent; but in October 1958 the Admiralty was forced to concede that these were valid points backed by Brundrett and the Ministry of Supply, making it an unprofitable line of attack; Mountbatten to Selkirk: 17 October, 1958; ADM 205/202.
115. 'Co-operation in Missile Development (1): 23 September, 1958' in 'Record of Meetings … Washington, D. C.: September 22–25, 1958'.
116. 'Ballistic Rockets: Memorandum by the Minister of Defence, 3 November, 1958'; CAB 131/20, D (58) 57.
117. Selkirk to Macmillan: 4 November, 1958; ADM 205/202.
118. CAB 131/19, D (58) 24th Meeting: 5 November, 1958.
119. Sandys to Selkirk: 5 November, 1958.
120. 'The Effectiveness of Polaris in Submarines and Merchant Ships: Note by the First Lord of the Admiralty, 10 November, 1958'; ADM 205/202.
121. 'Ballistic Rockets: Memorandum by the Minister of Defence, 16 November, 1958'; CAB 131/20, D (58) 63.
122. Clark, *Nuclear Diplomacy*, p. 287.

123. 'Ballistic Rockets: Memorandum by the Minister of Defence, 16 November, 1958'; CAB 131/20, D (58) 63.
124. These were described as Sandys' 'privately expressed views' in an internal Admiralty note of 15 December, 1958; ADM 205/202.
125. Hansard HC vol. 597, col. 76w (10 December, 1958).
126. Selkirk to Sandys: 16 December, 1958; DEFE 7/2162.
127. Ward to Sandys: 16 December, 1958; ADM 205/202.
128. Ward to Sandys (2): 16 December, 1958; ADM 205/202.
129. Selkirk to Sandys: 19 December, 1958; ADM 205/202.
130. 'Mountbatten and others pressed the "nuclear sufficiency" line for a number of years … While the politicians would never endorse this line explicitly—the "independent" deterrent was far too important a political issue—they did allow the Royal Navy in practice to develop an "East of Suez" justification for a conventional balanced fleet'; Moore, *The Royal Navy and Nuclear Weapons*, p. 186.
131. DEFE 4/103, C.O.S. (58) 2nd Meeting: 7 January, 1958.
132. 'The Effect of Nuclear Sufficiency: Report by the Joint Planning Staff, 27 January, 1958'; DEFE 4/104, JP (57) 151 (Final).
133. DEFE 4/104, C.O.S. (58) 16th Meeting: 18 February, 1958.
134. DEFE 4/115, C.O.S. (59) 1st Meeting: 1 January, 1959.
135. DEFE 4/115, C.O.S. (59) 4th Meeting: 13 January, 1959.
136. Tam Galbraith (Civil Lord of the Admiralty) to Mountbatten: 26 January, 1959; ADM 1/27389.
137. It was suggested elsewhere that Sandys be taken 'out to sea for an exercise' to show him how difficult it was; Caspar John to Mountbatten and Galbraith: 28 January, 1959 and a loose note in; ADM 1/27389.
138. They also claimed that the Ministry of Defence had been aware that such systems would be required 'for some time', and that since any new defences would then need their own defences, there was no end to this logic 'as long as the principle of BLUE STREAK persists'. In addition to this, 'The present ideas are that it must climb to 500,000 feet and carry a megaton warhead … In other words we must be double at least the present estimated cost of BLUE STREAK'; R. A. Allan to unspecified: 22 January, 1959; ADM 205/202.
139. Mountbatten to Selkirk: 13 February, 1959; ADM 1/27389.
140. 'European I.R.B.M.: 17 February, 1959'; ADM 1/27389.

141. Burke to Mountbatten: 6 February, 1959; ADM 205/202.
142. Mountbatten to Burke: 17 February, 1959 and Burke to Mountbatten, 28 February, 1959; ADM 205/202.
143. Lambe had heard that this was what Sandys had said; Lambe to Selkirk: 25 May, 1959; ADM 205/202.
144. Selkirk to Lambe: 1 June, 1959; ADM 1/27389.
145. Moore, *Nuclear Illusion, Nuclear Reality*, p. 49.
146. Clark, *Nuclear Diplomacy*, p. 288.
147. Young, 'The Royal Navy's Polaris Lobby', p. 77.

CHAPTER 6

Blue Streak

Over one thousand V-2s landed in Britain during the closing stages of the Second World War, so it was natural that the government should have taken an interest. Unfortunately, most of the relevant German scientists had been captured by the United States and the Soviet Union, allowing them to effectively continue Germany's work on unmanned weaponry, leaving Britain to make do with access to the Peenemünde team and some captured V-2s. This comparative lack of knowledge, and the post-war decision to assign overwhelming priority to the development of atomic weapons, left few resources to spare for next-generation delivery systems, and research was mainly concentrated on defensive surface-to-air weapons.[1] We have seen how the Second World War provided the basis for Sandys' policy preferences at the Ministry of Supply, and how it consequently placed him well ahead of other influential policy-makers in relation to ballistic missiles; but there is nothing to suggest that his wartime reports had provided any significant, immediate influence on government policy.

That is not to say that nobody else had recognised the potential of unmanned weaponry; but Sandys does appear to have been an exception at the highest levels of the defence policy-making process in calling for an increased reliance upon these nascent weapon systems.[2] Further down the policy-making hierarchy it was a different story, and although Sandys' 1953 memoranda were received with caution by the Ministry of Defence and Service Ministries, voices within the Air Ministry were making similar arguments. In January 1953, G. W. Tuttle, the Assistant Chief of the Air

L. Betts, *Duncan Sandys and British Nuclear Policy-Making*,
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Staff (Operational Requirements), circulated a note on the 'long-range surface-to-surface weapon' claiming that the V-bombers, which had barely entered serious testing at this point, would soon prove ineffective:

> I believe the only way to ensure delivery [of nuclear weapons] in ten years' time will be by means of a supersonic unmanned missile, and I believe that this solution will take ten years to achieve. We must start now. In ten years, any manned aircraft is unlikely to survive in the face of a guided weapon defence … In ten years I would suggest that if there has not already been a war, our stock of atomic warheads will allow a force equipped with this weapon to be a real deterrent without the assistance of Allies.[3]

The Air Staff examined the problem throughout 1953, but they could only proceed on particular requirements after Sandys' technological exchanges with the United States. It was only when an American delegation arrived in April 1955 to advise the Ministry of Supply the scale of the task became clear.[4] Thomas Pike, the Deputy Chief of the Air Staff, kept an account of the meetings, and reported that, whilst Britain had hoped to develop its own ballistic missile within ten years, the Americans expected the Soviet Union to be capable of 'threatening us' with their own weapons by 1960 (as Sandys had predicted in 1953), and told the Ministry of Supply that they should be looking to deploy a suitable weapon by this point. Pike thought that even with substantial American help Britain would have been 'jolly lucky' to meet its original target, so the Air Staff wasted no time in placing an order for an advanced weapon to 'fill a strategic bombardment role'.[5] They wanted a nuclear warhead-carrying missile with a 2000 mile range (with development potential for 2500 miles), that could be operated 'in any part of the world', and that was accurate to within 8000 feet (with a 50 per cent circular error) of its target. Further specifications calling for a 90 per cent reliability rate and an ability to be launched within two hours made this an ambitious target.[6] The weapon was codenamed 'Blue Streak'.

The official files show that co-operation with the United States allowed for relatively rapid progression, and during these years Brundrett and his Defence Research Policy Committee became Blue Streak's strongest supporters.[7] In a July 1956 report the Committee concluded that only Blue Streak and its 'convincing capability for global war' would provide the basis for an effective deterrent, and that what seemed like daunting development costs would be recouped through its successors (or related projects).[8]

In spite of this, Navias has shown that the Air Ministry 'tended to be most ambivalent' about acquiring the missiles that they had commissioned, citing a September 1956 discussion in which they expressed their preference for a supersonic aircraft. Even the Ministry of Supply were worried about an 'unjustifiable duplication of effort' should the Americans wish to base similar missiles in Britain.[9] It was left to Monckton, the Minister of Defence, to overcome this initial bout of scepticism, writing a lengthy memorandum justifying the possession of a British-built ballistic missile. Taking his cue from Brundrett, Monckton's views could have been Sandys' own, emphasising the 'revolutionary development in warfare' promised by unmanned weaponry, adding that there was 'no serious doubt that they will supersede the manned aeroplane for most military purposes'. Failing to develop a ballistic missile was to place an expiration date on Britain's nuclear strike capability by 'undermining the moral and political effect of our bomber force immediately'; not to mention 'turn[ing] us into an American satellite from about 1965 onwards'.[10]

This chapter does not attempt to provide a comprehensive history of Blue Streak, but the debates that raged surrounded the programme until its cancellation as a weapon system had been established early in its life. The nature of its supposed invulnerability (both in the air and in the ground) had been raised at this early stage, as had the potential effects of its development on the Air Force; but the Defence Research Policy Committee report struck a chord with Sandys' previous advocacy of these weapons. The idea of any delivery system needing a 'convincing capability for global war' worked with Sandys' concept of deterrence consisting of what his June 1953 memorandum described as 'actual preparations for war', and it was only when he carried these ideas over from the Ministry of Supply that Blue Streak gained the type of consistent support that it had previously lacked. Prior to 1957, the Air Ministry and the Ministry of Supply, the two departments responsible for missile development, had been uncertain about Blue Streak, and whilst Monckton appears to have been firmly on board, he had resigned by mid-October 1956. When Sandys made a viable nuclear capability the central tenet of the 1957 White Paper, it followed that, whatever other areas were to be decided by compromise, Blue Streak would have to become his priority, and in its closing moments the main pillars of Sandys' strategic concept came together to prove that his isolation in favouring Blue Streak was as much a case of him championing one particular weapon as it was his unconventional approach to fighting the Cold War.

Policy Implementation in the Aftermath of the 1957 White Paper

The 1957 White Paper had made no firm commitment to a British-built ballistic missile, but its February 1958 successor did. Historians have regularly noted the financial pressures Blue Streak was constantly subjected to, and yet between April 1957 and February 1958 the programme seemed to escape Treasury scrutiny.[11] This is noteworthy because the Chancellor often provided the decisive voice on most areas of defence policy, including the size of the V-bomber force; but during this period there appears to have been no serious attempt to cancel the programme, and its continuation was confirmed with little objection even after the Ministry of Defence had lobbied Treasury civil servants for official support in August 1957, which would have been an opportune time to question the programme.[12] This is where circumstances began to favour Sandys. He had been prevented from explicitly linking the 1957 White Paper to the development of a British-built ballistic missile, but he was well-placed to make his case post-publication because of the Blue Streak-friendly team at the Ministry of Defence. In addition to Brundrett's scientific weight, his two most senior civil servants, Powell and R. C. Chilver, were strong believers in the need for British-built ballistic missiles. In addition to this, Sandys retained K. G. Post, his long-time friend and Military Assistant during the Second World War, as his personal advisor.[13] With this group at the heart of the policy-making process, Sandys could better promote Blue Streak, establishing momentum in its favour, and allowing him to defend it against whatever opposition the Service Ministries and the Treasury could provide.

With an impending round of Defence Committee meetings in the summer of 1957, it was expected that Sandys would have to defend Blue Streak. In order to do so, Chilver provided him with a draft memorandum making its case. This made it quite clear that Britain had to go ahead with the programme, but Sandys felt that his policy preferences needed to be more apparent. Where Chilver had suggested that he should justify Blue Streak with the 'same reason for having the V-Bomber force', Sandys changed this to 'developing the V-bomber force', casting Blue Streak as the successor weapon in order to prevent the two delivery systems being seen as complementary. The draft also said that, in the absence of any plans to replace the V-bombers, 'if we do not have Blue Streak we shall have no deterrent under our own control after these aircraft are gone'.

Sandys replaced this entire line with one that said the planned supersonic bomber had been cancelled 'in view of the likely progress of ballistic rockets, and if we do not have Blue Streak we shall have no deterrent under our own control after the bombers are gone'. By referring to 'the bombers' in general, and the progress of ballistic missiles as a whole, Sandys had introduced a definite move towards his overriding belief that unmanned weaponry would inevitably supersede manned aircraft, and his removal from the draft of sections relating to manpower, 'know-how', and limited war suggest that he did not wish these peripheral matters to cloud the central issue: abandoning Blue Streak 'would be to abandon development of offensive weapons generally'.[14]

Chilver returned a defensive second draft that framed the issue as deciding 'whether to continue', which Sandys objected to lest it 'cast doubts on this project'.[15] Chilver said that he was merely attempting to build the strongest possible case for Blue Streak, as the Treasury had started to question the programme; but in his letters to Sandys, Chilver revealed how the policy-making elite at the Ministry of Defence identified their interests with the success of Blue Streak. He suggested that the Ministry of Defence could time the circulation of any memorandum to their advantage by waiting until long-term research and development had been completed. By holding out, it was also conceivable 'that a favourable decision will fall into our laps before that stage'.[16] Surprisingly, Blue Streak was not even discussed in the summer Defence Committee meetings, but it is important to bear in mind the approach that Sandys and his team had taken to Blue Streak at this early stage, and how this mindset would come to affect both its development, and the extent to which alternative weapon systems were considered objectively.[17]

Having failed to attract scrutiny over the summer of 1957, Blue Streak enjoyed a run of good fortune. We have seen how disarmament proposals saw Macmillan shed his doubts about the need for nuclear independence, and also how the Navy had proven unsuccessful in its [limited] attempts at reversing Sandys' strategic priorities. More importantly, the Air Ministry had backed Blue Streak during the White Paper discussions, taking Sandys' line that the success of the White Paper depended upon it.[18] Blue Streak also strengthened its position in the debates over air defence and the V-bomber force that took place in late-1957 following the successful testing of Britain's first megaton weapon. During these discussions, Sandys' policy preferences were more apparent as he sought to undo (or develop) aspects of the White Paper by abolishing Fighter Command, as well as

seeking a reduction in the proposed number of V-bombers. Navias has framed Sandys' contribution to these debates as being another attempt to pursue economies at the expense of both sound strategic policy and his own policies, which neglects Sandys' over-arching strategic concept as having provided the dominant influence on his thinking.

Whilst his true feelings had been diluted in the published White Paper, we have seen how Sandys was convinced that there were no effective counter-measures to ballistic missiles to the point that his entire strategic concept emanated from this belief, and at the end of 1957 he was allowed to restate his case. In a November note to Macmillan (he did not wish to involve the Air Ministry until Macmillan, the Chancellor, and the Foreign Secretary had approved the notion) he extended those parts of the White Paper restricting fighters to protecting the deterrent. Sandys ruled out the possibility of a Soviet surprise attack because such 'large-scale preparations' would not go unnoticed, meaning that there would be ample warning to place the V-bombers on high alert:

> In these circumstances, the absence of any defence would clearly have no effect on the ability of our bombers to take off on their initial sortie. It is true that a fighter defence might succeed in preserving some of our airfields from destruction, thereby enabling those of the bombers which returned safely to make further sorties. But, having regard to the heavy casualties which are expected, this cannot be more than a marginal factor. Moreover, it is questionable whether the Russians would, in fact, attack empty airfields in preference to centres of population.[19]

Sandys concluded that 'from the military standpoint, our fighter defences in Britain do not fulfil a really essential function'.[20] The timing of this proposal may have been fortunate with Macmillan just back from Washington, but by December the Prime Minister was also considering abolishing Fighter Command, which he had originally wished to do as Minister of Defence in 1954. The Defence Committee considered the fact that fighters would prove 'useless' against ballistic missiles, and Macmillan agreed with Sandys in relation to the 'military point of view' making it difficult to justify fighter expenditure; but Fighter Command was reprieved due to its role in protecting Strategic Air Command facilities, and also because Macmillan had concerns about the 'psychological impact' of appearing to leave the British people without any fighter defences.[21]

Navias has written that Sandys had the choice here between 'taking his own declaratory statements [in the White Paper] about defending the V-bombers seriously', and the pursuit of further spending reductions, concluding that he pressed forward with his search for economies with little concern for vulnerability.[22] Sandys did write to the Air Ministry asking how much money could be saved on fighter defences, but he had also told Ward that there could be no war until the Soviet Union had acquired enough ballistic missiles for a surprise attack.[23] It is irrelevant to us whether Sandys was correct in thinking that fighter aircraft were redundant, but it is incorrect to claim that he had not considered the problems of vulnerability. He had been doing so since the Second World War. He just happened to have reached a different conclusion to the Air Ministry.

Fighter Command survived, but the acceptance of what Sandys had originally sought to include in the White Paper (that defence was impossible and that Britain would be decisively ruined in any nuclear exchange) had ramifications for Blue Streak. If the V-bombers could get away before their airfields were destroyed, then concerns about the time it took to prepare Blue Streak were weakened. If they would be destroyed on their runways in a surprise attack, then planning beyond that moment was an irrelevance. Britain would have already lost the war. These concerns were also reflected in the debates that took place concerning the future of the V-bombers. Sandys said that any Soviet attack would be 'preceded by a period of international tension or localised war', which would also have provided enough time to prepare Blue Streak.[24] Moreover, if the principle of there being no defence against nuclear attack was still not fully accepted (hence the continuing debate over fighter defences), the Prime Minister coming to formally recognise this offered tacit support to Blue Streak as the most convincing basis for any policy of deterrence. This ties into the debates surrounding the strength of the V-bomber force, where economic concerns have again been said to have dictated Sandys' actions.

The first draft of the 1957 White Paper had said that the V-bombers 'will in due course be supplemented and later replaced by ballistic rockets', whereas the published White Paper declared that the V-bombers would merely be 'supplemented by ballistic rockets'.[25] When Sandys became Minister of Defence Britain planned to have a force of 184 V-bombers, 120 of which would be Mark II versions able to carry the Blue Steel propelled bomb.[26] Sandys felt that propelled bomb capabilities were crucial to 'any serious deterrent influence upon the Kremlin', and in May he had backed the proposed plans for this number of aircraft, actually

placing an order for 95 of the Mark IIs in July; but in August he began to waver.[27] Navias has said that this was due to Treasury pressure, but also because of Sandys' apparent willingness to deter in concert with the United States, and his belief that 'if worst came to worst' Britain would still possess enough aircraft to deter the Soviet Union independently. In order to remain consistent with his argument that Sandys largely ignored strategic considerations, Navias quotes him as going back on his previous advocacy of Air Ministry figures because 'there could be no arithmetical proof that this was the right figure'.[28] This gives the impression that Sandys had wriggled out of his previous recommendations, but his words need to be placed in their full context:

> The Air Staff now proposed a front-line strength of 184 aircraft of which 120 would be Mark II Victors and Vulcans as the minimum needed to provide an effective military force in global war. There could be no arithmetical proof that this was the right figure; but the operational arguments in its favour were sound.[29]

It is true that Sandys had recommended that the V-bomber force be reduced to 144 with 104 Mark IIs; but to say, as Navias does, that reductions were being made 'on the basis of economic considerations' misinterprets Sandys' motives. Of course Sandys considered the economic effects of any proposal, pointing to 'our investment programmes as a whole … imposing a severe strain on the economy'; and he did say that 'we should never, in practice, expect to challenge the Soviet Union alone'.[30] But this does not mean that he focused on costs, and only then sought to strengthen his arguments 'with an explicit rejection of a preference for unilateral strategic actions'.[31] Given that we have seen how he valued the retention of an independent nuclear capability in relation to Thor, and how he had alluded to it just months before this apparent August climb-down, it is hard to accept that he had done so in order to save relatively small amounts of money.[32] Instead, he still regarded 104 Mark II V-bombers as constituting a worthwhile threat until they too could be upgraded (replaced) by Blue Streak, and Powell confirmed this in later life when he recalled that the prospect of Blue Streak 'coming in to take over' often 'lay behind' decisions made about the V-bombers. Economies had to be made, but it was believed that 144 aircraft 'would be quite sufficient to determine the weight of attack that would serve as the deterrent'.[33]

The 1958 White Paper and the First Period of Doubt

These shifts were reflected in the 1958 White Paper, *Britain's Contribution to Peace and Security*, which merely reported the progress of the previous offering. Devoting lengthy passages to disarmament and interdependence, this latest White Paper also went further than its predecessor in its backing of Blue Streak by stating that, despite Thor coming to Britain, a ballistic missile 'of a much more advanced type is being developed on the highest priority'.[34] That this could have been published as official government policy in February 1958 shows that Blue Streak had benefitted from the recent debates over manned aircraft, as the policy-making process for the 1958 White Paper had started in December 1957.[35] This drafting process also provides an insight into how Sandys protected Blue Streak. The basic ideas of 1957 remained, but whilst the first few drafts of January all mentioned ballistic missiles, there was nothing to suggest that Britain would produce its own. Manned bombers would be 'supplemented' by ballistic missiles, and this was directly related to the Thor agreements. Even when drafts paid tribute to the Soviet Union's 'remarkable progress in rocket development', there was no firm commitment to a British-built weapon, and the United States was given the credit for maintaining the stalemate.[36] Further proofs of late January and early February made similar omissions, and there is nothing to suggest that the Ministry of Defence was questioned about any of this.[37]

It was not until 5 February that the 'British ballistic rocket of more advanced design' was mentioned in the version submitted to the Cabinet and the Defence Committee, who raised no objection to its inclusion.[38] The Air Ministry was beginning to question the Thor agreement at this point, so they would probably have defended Blue Streak; but the issue of nuclear sufficiency may have seen Mountbatten and Templer question the programme. It can only be speculated upon as to why this commitment suddenly appeared as the White Paper went before the politicians. Perhaps Sandys thought that there would be less detailed scrutiny at Cabinet level; but it is noticeable that he avoided the issue in the Commons debate on the White Paper. Even when Ward and the Minister of Supply, Aubrey Jones, made their own public defences of the White Paper, there was no mention of Blue Streak.[39] Blue Streak does not appear to have been publicly mentioned at all until late June, when Sandys confirmed to the Commons that production was on-going, and that the country's independence would be guaranteed by British-built warheads.[40]

This becomes even stranger considering that, although it had sailed through the autumn and winter, Blue Streak was known to be having problems. In August the Defence Research Policy Committee had claimed that reductions in research and development spending had added six months to its timetable, and Jones worried in October that it would probably go over budget by 'at least 100%', as every American programme supposedly had.[41] Even the Ministry of Defence thought that progress could not be increased without resources 'from elsewhere', and Blue Streak had entered 1958 in crisis.[42] Sandys had asked around for ways of accelerating the programme, but no solutions were forthcoming when securing 'some form of exceptional priority' for Blue Streak was not considered politically or economically viable.[43] When Brundrett told Sandys that Blue Streak would probably cost twice its original estimates, Sandys asked him to reconsider the V-bomber requirements, having already asked Jones to see whether Britain's requirements could be met by manufacturing American weapons (including a land-based version of Polaris).[44] Had all of this been made clear during the White Paper drafting process, Blue Streak would not have escaped criticism.

Is it possible that Sandys had minimised (or even concealed) any concerns over this period when they might have been pounced upon, knowing that he could then work around them? He had conceded important parts of his strategic concept in the 1957 White Paper only to then attempt to redirect them towards his original intentions, so this would represent a consistent approach to the policy-making process. If this was the case, then Sandys' initial attempts to deal with this uncertainty would confirm points previously made in this text. His willingness to consider American delivery systems at this point (months before his brief enthusiasm for Thor) strengthens the idea that his concept of nuclear independence was based upon the possession of worthwhile strike capabilities, and it was only Jones' claim that the United States would refuse to sell Britain the lightweight warheads it would need 'without strings' that ruined that particular solution, as this would have prevented Britain from exercising full control over its weapons.[45] That he sought to re-open the V-bomber programme in order to release resources for Blue Streak also strengthens the contention that he had had Blue Streak in mind when he accepted reduced numbers.[46] This is also the case for his attempts at re-opening the fighter issue that had seemingly been settled only days before. Much like how he had assigned aircraft carriers to anti-submarine duties, this was further evidence of Sandys attempting to rewrite policy with the aim of furthering

his original policy preferences (in this case maintaining an effective ballistic missile system under full British control). That he had spent January frantically addressing issues with Blue Streak whilst failing to mention it during the White Paper drafting process, only to then include it in February having resolved none of these problems, suggests that he had protected it, and possibly even withheld crucial information from other policy-makers.

This is further supported by the fact that he did not make any formal attempt to solve the issue until well after the White Paper had been published. Tuttle, now Deputy Chief of the Air Staff, warned the Air Ministry in February that development had reached a 'dangerously slow pace'.[47] This would have been another opportune moment to consult the Cabinet and the Defence Committee; but Sandys did not arrange crisis talks until April, when he chaired a meeting of officials from the Ministry of Defence and the Ministry of Supply, with Tuttle representing the Air Staff. These Blue Streak-friendly policy-makers arranged for a working party to be set up under Powell, with representatives from those ministries already present; for Sandys to be kept informed of any decisions taken 'outside the Ministry of Supply'; and for Jones to prepare a paper 'with a view to an approach by the Minister of Defence to the Chancellor'.[48] Tuttle was frank in his report to the Air Ministry that the 'only object in having the meeting was to endeavour to accelerate the time by which the R.A.F. might have BLUE STREAK in operational use', and that the working party would 'make recommendations with a view to accelerating the date'.[49] We have seen with McGrigor and Dickson finding common ground at the expense of the Army during the Radical Review that deal-making was not new to the defence policy-making process; but here three significant ministries were colluding to ensure Blue Streak entered service, thereby undermining the entire point of separate Service Ministries by binding them to the Ministry of Defence position.[50]

The Ministry of Supply and Air Ministry listed measures to hasten development, such as using American testing facilities, as well as just buying components (from guidance systems to full engines), but they were stuck for solutions, particularly when the Air Ministry raised the cost of the proposed underground silos.[51] The final report of the Working Party, compiled by Chilver, was equally short of ideas beyond deploying handmade 'unproved production rounds' ahead of schedule.[52] The report created a crisis atmosphere, and Sandys called in Jones and Ward (as well as their civil servants and advisors) to remind them that Britain had a policy of 'maintaining continuously in being an independent element

of British nuclear retaliatory power' that made it 'essential for Britain to develop a major rocket project of her own'.[53] This seems to have been the meeting where Sandys' turned to Thor, as it was suggested that the loosening of the McMahon Act might allow Britain to buy them 'without strings'. However, as the previous chapter argued, this was explicitly connected to the idea that it remained 'necessary to expand British development capacity', and that any alternative to Blue Streak would have to retain its main qualities: 'its range, its invulnerability against attack and its independence'.[54]

Sandys agreed to ask the Chancellor for the 'provision of more test facilities', and to suggest ways of hastening deployment.[55] This approach to the Treasury had been two months in the making, and he again made sure to emphasise the central tenets of his belief system in making the case for Blue Streak. The first draft put to Sandys said that, by the mid-1960s, the deterrent value of the V-bombers 'even with the propelled bomb, will be declining owing to the introduction in the interval of a Russian ground-to-air missile defence system'. Sandys struck a line through the mention of propelled bombs and referred instead to the 'growth in the interval of the Russian missile defence system'.[56] By removing the temptation to depend on air-to-surface missiles, Sandys removed any suggestion of continuing to depend on manned bombers, which was strengthened by the suggestion that the Soviets already had effective countermeasures in place. The need for Blue Streak was also stressed in one of the concluding sections that had originally described it as being of 'cardinal importance', calling its introduction by 1965 a 'vital factor'. Sandys changed this so that Blue Streak became 'one of the central features in our whole defence concept', with its swift introduction being upgraded to a 'critical factor'.[57]

The second, expanded draft received similar alterations. Where it was suggested that Britain 'ought to get an effective ballistic missile into service as soon as possible', Sandys said Britain 'must' do so. This draft ran for five pages, but Sandys simply removed three of them. The paragraph including the words 'expensive as it is' was erased, as were suggestions that the amended McMahon Act might allow for reduced expenditure. He also removed the section debunking the 'idea that we can discontinue our own rocket programme'; all mention of adopting American-made weapons; and the case against not accelerating the Blue Streak programme, and against using a lighter warhead, was also taken out.[58] Here we have another example of Sandys not wishing to create doubts where they did not already exist; but in removing passages that actually defended Blue

Streak, albeit whilst conceding that there were valid arguments to be made against it, the implication is that should questions have been asked at this stage, then it would have been difficult for Sandys to convince his colleagues to offer Blue Streak their support. If so, this would represent a striking example of both Sandys' underhand methods, and, as was made clear in this version of the letter, his unwavering belief that 'our right course, if we want to preserve an independent deterrent, is to continue BLUE STREAK and to accelerate the programme as now proposed'.[59]

When Sandys circulated his September memorandum on scaling back Blue Streak and concentrating on its successor whilst using an independent version of Thor, he cited the 'favourable developments' brought about by the relaxation of the McMahon Act that assured Britain 'full information' about the manufacture of lightweight warheads, whilst also making it possible 'that we may now be allowed to acquire American rocket tails without political restrictions'.[60] It has been shown how Sandys saw this as leading to the possibility of a 'more advanced weapon' being developed with Britain's allies, thereby not really representing a relaxation of his policy preferences; but the Ministry of Defence seems to have entered into a period of doubt at this point, which Sandys had to rectify. This had been partly prompted by the nuclear sufficiency debates, when the War Office questioned the independent British nuclear capability in July, and called for the total reverse of Sandys' policy preferences by assigning lowest priority to 'any weapon which would only be used in global war'. Jones also thought that Britain was devoting too many resources to 'long-range nuclear weapons', and echoed calls for a strategic re-appraisal.[61] The Air Ministry was still in full agreement with Sandys, who told the Defence Board that

> Britain must continue to make an independent contribution to the nuclear retaliatory power of the West … Moreover, unless the independent British deterrent were to be allowed to lapse, we must in due course provide ourselves with a ballistic rocket, under our own control, to succeed the bomber aircraft. It was not, in his opinion, necessary that the rocket should be made in Britain, provided its use was not restricted by 'political strings'.[62]

He added that discussions with the Americans had led him to believe that Thor might be available free of conditions, along with information to design a suitable British warhead. If this could be arranged, it might be possible to 'drop' Blue Streak and join the United States in developing

a 'more advanced solid propellant missile of the POLARIS type'.[63] Sandys considered Thor as long as it did not prevent Britain building its own ballistic missile, but that that weapon should have been identified as a solid fuel weapon at this early stage connects to his conduct during the debates over Polaris. Like Sandys, Powell also bound the use of Thor to the development of Blue Streak's successor, advising that Blue Streak continue until 'favourable answers' from the United States made this successor weapon a possibility. Interestingly, Powell also refers to any successor in terms of it being a solid fuel weapon. Blue Streak was ruled out for conversion to solid fuel because Britain could not make a light enough warhead, but he specified a 'more advanced missile of the POLARIS type using solid propellant'.[64] If in August the Ministry of Defence identified solid fuel as the future basis of any ballistic missile, Sandys and the department suddenly becoming hostile to it at the same time as they rediscovered their enthusiasm for Blue Streak (enabled by the implementation of non-specific technological developments) is highly questionable.

The solid fuel issue appears to have been solved when its effect on Blue Streak was given proper consideration. Chilver wrote to Powell on Sandys' behalf asking, 'are we clear why we are so anxious to have a solid-fuel rocket?' He cited range and development issues, but the letter revealed Sandys' policy preferences as being decisive when it stated,

> I have seen no proper examinations of whether it would be cheaper or less vulnerable (apart from the possibility of launching it from a submarine) … To settle a policy will include deciding what we want in the long term, i.e. what we mean by 'wanting to stay in the rocket business'.[65]

Was this a concession that submarine-launched missiles were cheaper and less vulnerable than Blue Streak? Equally, was it an admission that 'official' Ministry of Defence policy was to back land-based ballistic missiles regardless, even if it meant pressing on with an inferior fuel source? It certainly indicates a discernible amount of bias towards Blue Streak within the department, and further evidence of this can be seen in a response to an early draft of Sandys' September memorandum prepared by Chilver. This had said that 'If we can get suitable American rockets for our independent deterrent, we should give up the development of BLUE STREAK', but in doing so had failed to link this move to the development of a successor weapon. This draft recommended the solid fuel Minuteman as the ideal weapon system for Britain, and even conceded that submarine-launched

missiles had great advantages, albeit whilst adding that it would be wrong to 'rely wholly' on them when detection methods might improve.[66] E. C. Williams, the Scientific Advisor (Intelligence) at the Ministry of Defence, told Chilver 'I do not like this paper at all':

> The deterrent can only be considered independent if it is absolutely manifest that it is independent not only now but can remain so in the future … That means to say that it must be known that we retain in this country the capacity to carry on building deterrent vehicles and warheads even if a future American administration changes its mind.[67]

This may have been an influential intervention in terms of directing Chilver's draft towards its final form, as would warning against giving other members of the Cabinet the impression that 'there is any cheap way of maintaining an independent British deterrent which must in the long run be a rocket'.[68] This explains Sandys caveats for acquiring Thor 'without strings', but what about the move back towards Blue Streak in November?

Despite the low mood around the Ministry of Defence following the Washington talks and the doubts over Blue Streak, this was not reflected in Sandys' November memoranda, nor in his conduct during this period. In mid-October Brundrett had said that Thor could meet Britain's requirements until 1968, but that the United States' decision to discontinue intermediate-range missiles meant that Britain would be unable to purchase a like-for-like replacement. Working on the assumption that this replacement would have to be land-based, he insisted that Polaris had too short a range, and that solid fuels were inherently inferior. Consequently, he was 'forced, with considerable disappointment, to conclude that … we should continue with Blue Streak'.[69] In response to this, Sandys met his officials and made it clear that 'we could not guarantee the maintenance of an independent deterrent unless we went with BLUE STREAK'. Polaris warheads were too small, and solid fuel weapons would remain inferior 'for some time at least'; so it was decided that policy should revert back to where it had stood in July, when Sandys had asked the Chancellor to accelerate the Blue Streak programme.[70]

This uncertainty became a problem for Sandys when Jones sent him his 'personal thoughts' on Blue Streak, admitting that he only supported it reluctantly. Jones believed that the United States deterrent was all-powerful, and that Britain only needed its own nuclear capabilities for

'reasons of prestige and as an insurance policy'. Like Brundrett, Jones also discounted solid fuel missiles as an immediate solution, and Polaris was useless for Britain having been 'specifically designed for submarine use'. However, he did recommend further investigation into solid fuels, suggesting that a programme of research and development should be funded from Blue Streak's budget.[71] This was a definite attempt to distance the Ministry of Supply from Sandys' strategic concept, as well as his unwillingness to consider solid fuel weapons; and, to make matters worse, Jones had sent copies of this letter to the Service Ministries. Having compromised their supposedly neutral role in the policy-making process by following Sandys' Blue Streak policies, and colluding with him and the Air Ministry to ensure their success, revealing this uncertainty to the Admiralty and the War Office meant that Jones was now aiding those departments that also agreed that the 'main military objective of this country should be preparedness for limited war'.[72]

Mountbatten used this information in a meeting of the Defence Board in late-October, where he tried to argue that, whilst Blue Streak ought to continue, it should be reviewed within twelve months lest Britain commit itself 'irrevocably'. He was really angling for Polaris, but Sandys closed the meeting by citing 'general agreement that a land-based rocket would be required to maintain an independent British deterrent'.[73] This failed to satisfy either party, and the following week Mountbatten, with Army support, questioned Sandys' policies on nuclear independence. Sandys truly believed that it was 'inconceivable that Britain would hesitate to use her own nuclear retaliatory power' if the United States abandoned Western Europe, making the retention of an independent nuclear capability 'no less important for the future than it was now'. Mountbatten could not believe what he was hearing, believing that the outcome of acting without American support 'would surely be to commit national suicide immediately'. Sandys was not impressed:

> These so-called priorities had never been, and never could be, mutually exclusive … He did not believe that the anxiety shown by the First Sea Lord and the Chief of the Imperial General Staff was really concerned about our deterrent policy. In his view they were concerned lest the high cost of the deterrent should necessitate cuts in the conventional forces.[74]

He said that, even if Blue Streak was cancelled in favour of an independent Thor, the British missile programme could not disappear, as this

would eventually have to be replaced (even if its replacement was another American weapon, Britain would have to make that independent), so 'it was wrong to assume that, if we abandoned altogether our contribution to the nuclear deterrent, the resultant financial savings could be used to increase expenditure on conventional forces'.[75] This signalled that Sandys had rediscovered his enthusiasm for Blue Streak, and that he was not willing to allow his strategic concept to fail alongside it. He had explored alternative ways of providing Britain with a truly independent nuclear capability, but none of them had been suitable. Now he had to make sure that Blue Streak entered service.

Sandys' Final White Paper

Sandys' determination that Blue Streak should succeed can be seen in his November memoranda. These ought to have reflected the climate of doubt and confusion that had come to surround the programme, but he was able to override any uncertainty to present an image of calm, resolute support by altering the more balanced proposals put to him by Chilver. The first document Chilver produced did reflect the uncertain climate. The Washington talks were framed as a disappointment, and the plan was for Sandys to say 'I am reluctantly forced to the conclusion that the revised policy I outlined [in September] is not feasible'. Blue Streak was backed in this draft, and although Polaris' range was questioned, it was suggested that Blue Streak be kept 'under review, in common with the rest of our programme'.[76] The official files do not contain any subsequent drafts, but what Sandys circulated was drastically different in both content and tone. There was no reluctance in his memorandum, and whilst Chilver had said that Blue Streak could utilise 'anti-defensive measures or other improvements', Sandys implied that he had been made aware of these in Washington, and even suggested as much in the Defence Committee meeting. The section on Polaris made up of weak arguments was his own inclusion. Finally, Sandys' memorandum simply stated that he had 'come to the conclusion that, if we wish to maintain an independent British contribution to the nuclear deterrent, after the mid-sixties, we must proceed with the development of BLUE STREAK'.[77]

The main difference between what Chilver and Sandys produced was the certainty of Sandys' version. There was no point keeping Blue Streak 'under review', because to Sandys it was indisputable that a land-based ballistic missile was the ideal nuclear delivery system, and to keep the question open

'in common with the rest of our programme' was absurd. Blue Streak was the rest of the programme, aspects of which were only left open in order to ensure that the central idea of the 1957 White Paper could become a reality. Sandys' entire strategic concept was based upon the idea of ballistic missiles having mastery of all other weapon systems, which could and should be sacrificed in order to make Blue Streak a reality. Failing to press ahead with Blue Streak as recommended would have meant that Britain ceased to possess a viable nuclear strike capability beyond the lives of the V-bombers. This would have not only rendered his defence review redundant, but it would have left Britain vulnerable.

We have seen in relation to Polaris how Sandys managed Blue Streak through the end of 1958, with his second November memorandum reiterating his support for the programme, albeit whilst appearing to support watching Polaris' progress. Clark has said that by this point 'it was apparent that Blue Streak would proceed but on a provisional basis only', citing Macmillan's 8 December wish to 'pause for a year or so, until we are in a better position to make a firm choice'.[78] But this was not the policy of the Ministry of Defence. They believed that the crisis of confidence had passed, and this was apparent in early drafts of the 1959 White Paper which were prepared in late-1958. The 'first shot' at a draft, produced in late-November, mentioned that Britain had a 'need for ballistic rockets' after the V-bombers expired, but could only note in the margin 'Will it be BLUE STREAK?'[79] By Christmas (despite Macmillan's intervention) this had become a detailed passage about the limited lifespans of both the V-bombers and Thor, adding that 'Work is therefore continuing on the development of the British ballistic rocket BLUE STREAK', and offering support to Polaris on the worthless condition that 'available resources were unlimited'.[80]

However, as noted previously, Sandys had agreed to review the future of Britain's nuclear deterrent, and Powell worried that such a definite statement in favour of Blue Streak 'prejudges the outcome'. This was standard procedural advice from Powell, but he revealed the Ministry of Defence's interest when he added that 'This enquiry will, in my view, take something like six months, but so long as BLUE STREAK continues in the meantime, there is no need to hurry it and, indeed, every reason against hurry'.[81] This was because, whilst Blue Streak continued its development, it swallowed up further resources, making it more difficult to cancel as wasted time and expenditure would (and did) prove embarrassing for the government. Sandys' second November memorandum going further

into both the financial and political costs of Blue Streak than his previous papers is no coincidence, seeing as he had previously been reluctant to raise the expenditure issue lest it attract negative attention. This memorandum now admitted that Blue Streak involved 'heavy expenditure', about £480 million (£200 million on development, the rest on production and deployment), but adding that this could only be understood in relation to the costs of the V-bombers, in which case it was 'really not more than might reasonably be expected'. What had already been 'spent or committed' was heavily emphasised, knowing that the government would find it difficult to justify writing-off large amounts of capital when making its decision.[82]

This echoed Jones' qualified support in October, which included the fact that 'we have gone some way with Blue Streak' as a reason against cancellation; but Sandys presented his renewed support as owing more to the inferiority of alternative systems, with his concluding remarks claiming that 'We have already spent or committed £50 m. on BLUE STREAK. It would obviously not make sense to stop the project now and then quite likely have to start it up again in a few years' time'.[83] This conceded the practical case against writing-off previous expenditure, which could imply reluctance; but his policy preferences became clear when, in a paragraph admitting that Polaris could have been viable 'If we were starting from scratch', he added that Britain would end up having to rely on Blue Streak anyway.[84] When read as one statement this displays a marked cynicism towards Polaris, as well as demonstrating his well-established belief in land-based ballistic missiles as the inevitable weapon of choice for anybody wishing to retain a viable nuclear delivery system.

This explains Sandys' relaxed attitude towards the review, which was to work on the basis of existing British policies. These were currently in the process of being re-stated by Sandys in the upcoming White Paper, the next draft of which not only committed Britain to Blue Streak, but explained why submarine-launched and solid fuel systems were inferior to it 'from the operational or financial standpoint'.[85] The 1959 White Paper, *Progress of the Five-Year Defence Plan*, was a brief one, and the official files suggest that it did not undergo the same amount of deliberation as previous White Papers. Both the Cabinet and the Defence Committee devoted little time to it, seeing only two printed proofs, and not insisting on any substantial alterations. The one change that the published version did make was the removal of any mention of alternatives to Blue Streak, which was described 'on present knowledge' as being the 'type of missile best suited to British needs'.[86]

Sandys justified this brevity in the defence debate by claiming that the 'policy approved by the House two years ago has proved itself to be sound and workable and has, therefore, not had to be changed'.[87] He skipped through most of his policies in short order, but, unlike the previous year, he sought to defend Blue Streak at length:

> Rockets—particularly long-range guided rockets with nuclear warheads—are, of course, expensive things. But the rocket is not a superfluous addition to our armoury. We must remember that the role of the ballistic rocket is to take the place of the V-bomber when it comes to the end of its operational life. If we did not make the rocket, we should have to develop and manufacture another generation of strategic bombers and provide the trained crews, airfields and control systems to operate them.[88]

He compared the cost of Blue Streak to another manned bomber, saying 'It follows that if we can afford a bomber deterrent now, we should be able to afford a rocket deterrent in the future', before responding to calls of 'How much?' by again describing Blue Streak as the 'type of weapon which will best suit our needs'. To support this he claimed that 'The Americans are at present putting their main effort into liquid-fuel intercontinental land-based missiles. We believe that they are quite right, however, if they can afford it, also to develop alternative methods.'[89] The United States was certainly developing these weapons, but their 'main effort[s]', as Sandys had been told in Washington, were directed towards the solid fuel Minuteman and Polaris.

He had suggested in his opening remarks that critics of his cuts to non-nuclear forces failed to recognise that the 'circumstances in which we might have to carry out military operations entirely on our own, without allies, are today very limited', adding 'I find it hard to visualise any wars which we might have to fight alone without allies.'[90] Frank Beswick asked from the Labour benches 'If that is the case with regard to conventional forces, in what circumstances does he think we are going to use the deterrent nuclear weapon independently of the U.S.A., and if not, what is the good of it?'[91] Beswick had been a pilot during the Second World War, and one of the British observers of Operation Crossroads, the post-war atomic bomb tests over the summer of 1946.[92] Yet Sandys could only mock him about 'joining the Liberal Party' (who rejected the need for an independent British deterrent), and refuse to be drawn 'on a major issue of that kind' in reply to an intervention that he

was not prepared for.[93] He was asked again, 'under what circumstances he conceives the use of these weapons by Britain independently of their use by other Powers?', to which he replied, 'Does he say now that he does not agree with his party that we must have an independent nuclear deterrent?' The Speaker was asked then to intervene over claims that Sandys was refusing to 'answer a question of crucial significance', before Sandys dismissed opposition questioning as 'tedious', and refusing any further interventions.[94]

Clark has suggested that Sandys' admission that he would 'continue to watch progress of other developments in America and elsewhere' demonstrates the 'qualified nature of the Government's commitment to Blue Streak'.[95] But read as a whole, Sandys' speech can only be taken as a defence of Blue Streak, even if it appears from reading Hansard that he was keen to delve into the details of Blue Streak to avoid having to justify its strategic value. This is because, despite the fact that he had refused to elaborate on the precise uses he had in mind for Blue Streak, he nevertheless stressed its independence, claiming that 'any other course would involve a wholly unjustifiable gamble', since 'Thor is not an element of independent British nuclear power … it is certainly not a successor to the V-bomber'.[96] He may have been reluctant to make a definitive statement regarding Britain's wish to retain the capability to deter the Soviet Union unilaterally (in the era of interdependence it is understandable that the Minister of Defence was unwilling to suggest that this might be a necessity, even though it made it difficult to defend reductions in other areas), but we have seen that this was definitely Sandys' intention, proving that his support of Blue Streak and Britain's independent nuclear capability was by this point decidedly unqualified.

Labour tried to exploit this apparent incoherence by questioning both Blue Streak and Sandys, with George Brown, Labour's defence spokesman, focusing on the idea of its future being determined with strict reference to 'present knowledge':

> I am bound to say that I am surprised at the extent to which the right hon. Gentleman ties himself to land-based static launchers of the nuclear deterrent in the future, and why he rules out seaborne solid fuel rockets. The continuance of the V-bombers with their standoff bomb will carry us a long way ahead, probably quite long enough to reach out to when the seaborne solid fuel invulnerable mobile rocket arrives. Why does the right hon. Gentleman rule them out as firmly as he does?[97]

The next day Sandys defended an independent nuclear capability on the grounds that the United States appreciated its contribution, and because it might, 'in certain circumstances, be a decisive factor in preventing war by miscalculation'. He touched upon the idea of nuclear sufficiency forcing the United States out of Western Europe, but failed to clarify his position by saying such a retreat was 'inconceivable', and still refused to address the prospect of unilateral action.[98] He then turned to Blue Streak, admitting that Polaris' mobility was one of its 'very great attractions', but adding that 'it should not be assumed that the removal of the deterrent from this island would in practice protect our population from attack'. He said Polaris' warhead was too small, but then introduced a new concern by suggesting the missile itself was too small to accommodate 'means of evading or foxing the anti-missile missile which is coming up to destroy it', which was important if 'we wish our rocket to remain an effective deterrent for a reasonable time'.[99] Sandys had raised the incorporation of these in his November memoranda, and he seems to have been genuine in believing that they would increase in importance; but, as with the question of lightweight warheads and solid propellants, his inability (or unwillingness) to apply his usual long-term outlook to specific technological developments that ran counter to Blue Streak's best interests raises questions.[100]

The government as a whole might well have remained uncertain about Blue Streak, as Clark writes; but this does not apply to Sandys, and the question of counter-measures reveals how he was capable of holding contradictory beliefs when it suited Blue Streak. When Britain acquired Polaris it eventually developed systems aimed at confounding any Soviet counter-measures. It could be argued that the cost of these systems, and the fact that they reduced its range, validated Sandys' concerns.[101] However, given the information available to him at the time, he had little reason to believe that this would prove to be the case, and in claiming that only something the size of Blue Streak could carry electronic counter-measures, Sandys was effectively discounting further development of the Polaris system, as he had over the question of solid fuels.[102] There was no reason for Sandys to believe that only Blue Streak could accommodate these developments, and although Polaris was adapted with some difficulty, it still managed to incorporate them and remain viable. That is not to say that the case could not have been made, or that Sandys would not have felt confident making predictions about the future of unmanned weaponry; but by this point he had been thinking

about the next phase of missile development for fifteen years, so he was either satisfied that the missile technology of 1959 could not be improved upon, or he was being disingenuous to protect Blue Streak. Nevertheless, it had survived another immediate crisis, and the review of deterrent policy could begin.

The Nuclear Deterrent Study Group and Emerging Alternatives

In late-March Powell wrote to Sandys proposing that Blue Streak's future be debated by representatives from the Foreign Office, the Treasury, the Ministry of Supply, the Atomic Energy Authority, and the Army. He wanted to leave the Air Force and the Navy out because they were 'expected to have a bias', although he would consider including them both instead of the Army, lest their support be pursued. There is some indication that Powell was now distancing himself from previous Ministry of Defence thinking, particularly in his reluctance to include Brundrett. Brundrett was the leading scientist in the defence policy-making process, but Powell worried that 'he is generally known to hold certain strong views on the subject', and proposed merely to keep him informed.[103] By May the Chiefs of Staff and the Cabinet Secretary began wondering why nothing had been done, and the departmental files indicate that Sandys was becoming desperate. Powell had to ask Sandys for his authority to proceed because, despite having initially agreed to the study, he had, in Powell's words, 'subsequently asked me to do nothing, in order to avoid casting doubt on the future of BLUE STREAK'.[104] The official files do not contain any order to this effect, even though the Admiralty knew what Sandys was up to, so it was probably done informally; but this was his most overt act in defence of Blue Streak to date. It was one thing to manipulate White Papers, depend on dubious arguments, and even to collude with other departments; but actively trying to prevent the study group from being able to question Blue Streak was next-level duplicity, and it suggests that he was still worried that it could not survive proper scrutiny.

Powell convened the study group in June, but with Brundrett and representatives of all three services present alongside the other institutions, and by July detailed terms of reference were set.[105] The wish for Britain to remain capable of acting in isolation was kept in place, and the following technical considerations were listed:

1. The ability to deter the Soviet Union was the primary intention, although an ability to strike against China was an advantage if not too costly.
2. It would most likely be used against cities.
3. There was a need to keep vulnerability so low that the Soviet Union could not expect to eliminate Britain's retaliatory capability in any preventative attack.
4. The government had to maintain absolute certainty over final launching control, which had to be available in the shortest time possible.[106]

The summer recess intervened, but when the policy-making process resumed in September Sandys received news from Jones that the main contractor for Blue Streak, de Havilland Propellers, expected work to cost 'substantially more' than had been agreed.[107] Proving that collusion between the ministries was a thing of the past, Jones also sent this news to the Treasury, and the Chancellor let both of them know that there was no more money 'even if corresponding savings are found elsewhere in your programmes'.[108] Jones claimed to have done everything possible to keep costs down, and recommended backing Blue Streak until its future had been decided.[109] This was accompanied by a more direct letter from Sandys, regretting the 'inevitable overspending', but backing the programme at least until after the coming election.[110] Sandys had started to be honest about the costs of an independent nuclear capability, but he still claimed the Ministry of Defence could account for it, and although he had previously said that an independent nuclear capability was not cheap, over-spending being described as 'inevitable' represented a major shift in his position (the logic of which insulated Blue Streak from any financial arguments). This may have been what the Chancellor had in mind when recommending freezing expenditure, as mounting costs could well have forced Sandys to shred the rest of Britain's military capabilities. If his actions during the Radical Review are anything to go by, he would more than likely have been willing to consider this.

In mid-September the study group reported on possible alternatives to Blue Streak, with the submarine-launched missile being the most highly thought of owing to its diversity of approach paths, its ability to fire with little warning from the Soviet coastline, and its ability to go undetected.[111] Unfortunately for Sandys, his influence over the policy-making process was severely depleted following the October 1959 general election, after

which Macmillan moved him back to the Ministry of Supply with specific orders to break it up and form a Ministry of Aviation to rationalise the failing aircraft industry.[112] He would still have a voice in the defence debates in this role, which was a task he was suited for; but there is evidence to suggest that Sandys' approach to policy-making had worn thin at the Ministry of Defence. His successor, Harold Watkinson, recalled that his first acts as Minister of Defence were to inform the Chiefs of Staff that he saw them 'not only as my advisers but my trusted colleagues whose advice I am not likely to disregard', and to replace the rectangular table Sandys had used to confront his advisors, and to express the 'dominance of the political arm of the Ministry', with a round one.[113]

Days after the election, Brundrett circulated studies completed by the Joint Global War Study Group that carried troubling conclusions for Blue Streak. The first report on submarine-launched systems concluded that it would continue to be a 'matter of the greatest difficulty to detect missile firing submarines at sea', and that, 'on a missile for missile basis', Polaris' ability to cause the desired amount of damage to Soviet cities was 'comparable with that of Blue Streak'.[114] The second report stressed the importance of invulnerability, upon which the 'credibility of the deterrent' was said to depend, and 'bombers in the air or submarines at sea' were said to possess an advantage over land-based ballistic missiles, as control over the latter could not be delegated. In addition to this, concerns were raised that even the use of hardened underground silos might not reduce Blue Streak's vulnerability, as there could still be a period where the lids were open but the missiles would not have 'reached sufficient height to be immune from the blast'.[115] The third report did not recommend any particular system, but in concentrating on the likely nature of a Soviet attack on any land-based deterrent in Britain, its conclusions could not have failed to have an effect on policy-makers. It predicted that in order to neutralise 100 hardened Blue Streak silos, the Soviet Union would probably have had to use three missiles per site, each carrying an eight megaton warhead. Blue Streak's supporters had considered such a possibility during the debates of late-1958, and had satisfied themselves that the Soviet Union launching an attack of this scale was unrealistic; but it was difficult to avoid the startling result of this calculation: 'Fallout from the scale of attack required to knock out 100 hardened missile sites widely dispersed over the UK would kill nearly everybody'.[116]

In a meeting of the study group convened specifically to discuss Blue Streak's vulnerability doubts were also raised that, 'even if the political

authority were given to fire on radar warning, there would be sufficient time to fuel and launch BLUE STREAK'. Despite Sandys' late-1957 claims that global war would only erupt after a prolonged period of international tension, concerns about Blue Streak's relative inability to remain on alert meant that it would in fact be 'more vulnerable to pre-emptive attack than the V-bombers'.[117] Meanwhile, the Admiralty returned to the fray, and Mountbatten told Powell that the United States was 'most anxious' to help Britain put its nuclear capabilities out to sea, to the point where he thought that they would be willing to provide 'complete drawings' of their new Polaris submarines as well as the missiles 'if we wanted them'.[118]

The pressure was beginning to tell on Blue Streak, and Sandys wrote to the Chancellor to state its case once more. He said that any project of 'exceptional size and complexity' was bound to prove difficult, especially for a country with no prior experience of producing unmanned weaponry, and his reasoning is worth quoting at length:

> I think we must face the fact that whatever we do the maintenance of an independent British nuclear deterrent is bound to be a costly business, in terms of money. But the military power, security and influence which it gives us is out of all proportion greater than anything we could hope to obtain by devoting a similar sum to forces of any conventional kind. It may, of course, be argued that we should scrap Blue Streak and change over to some other form of nuclear deterrent. If there are convincing military reasons for doing this, which I doubt, we must, of course, be prepared to change horses, but I am sure that no change of this kind would be justified on financial grounds.[119]

This letter has been used by Clark to argue that Sandys was coming round to the prevailing mood, writing 'What is telling about this [letter] is that Sandys, although a supporter of Blue Streak, accepted the basic premise that the decision must be taken on military, and not financial, grounds'.[120] This implies that Sandys was open to being convinced that alternative delivery systems were superior to Blue Streak; but this interpretation of Sandys' conduct fails to take into account the fact that he had always supported Blue Streak (or any successor) on solely military grounds, working as it does from the premise that Sandys was motivated primarily by the pursuit of spending reductions. It is true that Sandys had protected Blue Streak from difficult questions; but he did so as a result of his fervent belief that only something like Blue Streak could guarantee Britain's future as an independent nuclear power. By interpreting the 1957 White

Paper as having been dictated primarily by financial considerations, and accepting that his willingness to depend on the nuclear deterrent was merely a way of making his cuts an acceptable reality, Sandys' belief system and policy preferences become lost amongst more quantifiable aspects of the policy-making process. We know that Sandys was completely committed to the idea of land-based ballistic missiles providing the most suitable basis for that deterrent, and accepting that Blue Streak could only be discussed in military terms was not really a concession if, as the letter says, he doubted that there were any 'convincing military reasons' to cancel the programme.

Whilst he was still going to defend Blue Streak as a weapon system, Sandys did make the financial case for its retention, citing sunk costs and prospective expenditure, whilst also maintaining that Blue Streak was the best option:

> Whether we go in for rockets launched from the ground, from the sea, or from the air, the next generation of nuclear deterrent is likely to cost something of the order of £500M. We have already spent £50M on Blue Streak and it would be a large sum of money to wind it up. First firings are due next year … In all the circumstances, I hope that an early decision may be taken to go ahead with Blue Streak at the full planned speed; for, you will I am sure agree, that a policy of going slow on an urgent project is really a very poor form of economy.[121]

By now Sandys was becoming isolated. Even the Air Ministry, normally second only to Sandys in their devotion to Blue Streak, had moderated its position. Having conspired to protect Blue Streak in mid-1958, Boyle had also sought to provide the Air Force with a back-up plan by approaching Solly Zuckerman and the Strategic Scientific Policy Committee to consider long-term trends in aerial warfare. Their investigation proceeded slowly, but their conclusions pointed towards Blue Streak becoming expendable. In early meetings the basic belief in nuclear independence was upheld when the optimum strength was given as 'large enough to be clearly effective on its own', although effectiveness was defined by its success in securing further American co-operation (not to mention out-doing the 'pure prestige demonstration planned by France'). In one meeting of December 1958, Polaris was actually said to have been preferable on a number of counts. It would not attract an attack on Britain; it did not require foreign bases; it would not be under dual control; and it was even said to have been 'less vulnerable' than Blue Streak. Blue Streak only survived this round of meetings due to

the 'severe operational and technical difficulties' that Polaris was thought to suffer from, and further studies were commissioned.[122]

When the committee reconvened five months later Blue Streak came under attack. It was thought that Soviet ballistic missiles were not accurate enough to neutralise it in any surprise attack, and that anti-missile defences were similarly unsophisticated; but this situation was only temporary. Two May 1959 meetings then discussed 'insurance weapons' that could at first complement Blue Streak, but then succeed it when the land-based ballistic missiles became unsuitable for Britain's purposes. By narrowing down the successor weapon to something more flexible than Blue Streak, they admitted that it would have to be either an air-to-surface missile launched from advanced manned bombers or a submarine-launched system. In a predictable set of conclusions, the Air Ministry decided that although Polaris possessed clear advantages in 'mobility, and possibly also in invulnerability', having 'no foreseeable use except as a deterrent weapon' made it suitable only for 'varying the bowling'.[123]

The End of Blue Streak

The study group published its interim report on 31 December 1959, recommending that Blue Streak should continue. The V-bombers could continue until 1965 with Blue Steel, but only Blue Streak would prove effective in the long-term. This was if the government insisted upon a British-built delivery system. Should it have been 'acceptable for this country to be seen to be wholly dependent between 1965 and 1970 upon the United States for the weapons used by the British contribution to the nuclear deterrent', then the government was told to either prolong the V-bombers' existence with Skybolt (with a new aircraft required to make this viable beyond 1970), or to choose Polaris (either buying completed submarines or building them in Britain).[124] The study group planned to investigate Skybolt and Polaris, but Powell offered his 'personal view' to Watkinson:

> [D]espite the cost involved, we should continue with the development and some deployment of BLUE STREAK, unless we are prepared to accept an entirely new concept of a 'British controlled' contribution to the nuclear deterrent, substituting 'British operation' of part of an American deterrent force for the independent British contribution to a joint Anglo-American effort … I think that we should have to be very sure that it would be to

> our long term advantage to do so before we abandoned the effort we have made during the past 12 years to build up our independent nuclear weapon capability.[125]

Sandys took his lead from Powell, who had moved to the Board of Trade in the New Year, and wrote to the Chancellor supporting the study group's conclusions. Claiming that he had hoped to see the matter decided by the end of 1959, Sandys argued that, until Blue Streak was officially cancelled, 'we must not fail to do all that is necessary to ensure that the programme proceeds efficiently', asking for further spending on test facilities in Australia.[126] Two weeks later he sent another letter that said failing to do this would see it come into service late, and 'Therefore, unless the Defence White Paper contains an announcement that BLUE STREAK is to be abandoned, which I regard as inconceivable, and which I would, of course strongly resist, I must ask you to give the "all-clear"'.[127] It has been suggested that these pleas to the Chancellor show that Sandys was kept in the dark about what the study group had concluded, but the timing of this intervention makes this unlikely.[128] Either way, the Chancellor demolished Sandys' case in his reply. He said that it would be unreasonable to increase spending when the programme was still under review, and that new delays were hardly going to make-or-break the programme, especially when 'it is, of course, this very possibility that, among other things, has necessitated the current review'.[129]

The Sandys-era thinking had not yet left the Ministry of Defence, and whilst Brundrett was succeeded as Chief Scientific Advisor by Zuckerman, Chilver remained, and he could still offer Watkinson pro-Blue Streak advice. Zuckerman did not support Blue Streak, but Chilver submitted their 'joint views' in late-January and offered it a degree of support. He accepted that the Chiefs of Staff were likely to turn against Blue Streak if Skybolt continued to progress, and that, as long as Britain did not mind being dependent on the United States, Blue Streak could be sacrificed. But, if Britain wanted an independent nuclear capability, as well as 'keep[ing] in the business of developing large rockets (not merely manufacturing copies of American rockets)', then Blue Streak had to continue. Its vulnerability was irrelevant because there were 'no foreseeable circumstances' under which the Soviet Union would launch a pre-emptive attack; combining it with another weapon was too expensive; and making other rockets would cost the same as Blue Streak.[130]

Sandys' influence was felt elsewhere too. Hogg, now the Lord Privy Seal (another neutral position, but with added responsibilities for science), reported to Watkinson that Sandys had told him that 'he greatly hoped that our White Paper would not encourage speculation [about Blue Streak]'.[131] Hogg pointed this out to Watkinson to avoid any cross-examination that could prove 'embarrassing', but it supports the argument that Sandys' approach to White Papers was highly politicised. From springing Blue Streak commitments on the government in 1958, but refusing to elaborate on them, and then making a point of emphasising its continuation in 1959, Sandys clearly knew that the White Paper, in being a formal statement of government policy, was influential in holding it to account, and therefore liable to prove an embarrassment when its pledges were not met. Watkinson took a similar approach, informing the Cabinet in February that he had considered the possibility of not publishing a White Paper every year lest it bind the government. He would do so in 1960, but in the form of a progress report in 'non-controversial terms' stressing continuity. This was of 'particular importance' in avoiding any firm commitment to Blue Streak, which he proposed to gloss over by noting its progress whilst admitting that the government was also monitoring alternative systems.[132]

Watkinson had asked the Chiefs of Staff for their views on Blue Streak in mid-January, and he began February by asking them how many Polaris/Skybolts Britain would need to meet its existing nuclear commitments, crucially asking them to assume that Blue Streak would not enter service.[133] The Chiefs of Staff did not hesitate in recommending that Blue Streak be brought to an end. They did not wish to see Britain abandon the development of ballistic missiles 'for which we may well have a requirement in the future'; but the perceived vulnerability of Blue Streak, and its comparatively lengthy preparation time, meant that it could only be used as a 'fire-first' weapon, which meant that keeping it contradicted any declared retaliatory policy. The Chiefs of Staff saw Skybolt as the ideal replacement, as it had the added benefit of extending the lives of the V-bombers, 'in which a great deal of money has already been invested'; but they also suggested that Polaris might prove more suitable beyond 1970, and asked for further studies into their relative merits. Even if an American replacement could not be found in the short-term, the 'militarily unacceptable' Blue Streak was definitely out, and Britain would just have to 'accept a gap in our nuclear deterrent capability'.[134] The Ministry of Aviation had also been asked about the effects of cancelling Blue Streak on the aircraft industry,

and they said that it would be 'little short of disastrous'.[135] The Ministry of Defence read between the lines of Sandys' argument and told Watkinson that if he could not be certain about acquiring an American replacement for Blue Streak, 'The Minister of Aviation could say that you are taking great risks', and advised him not to include any what-if sections in his case against Blue Streak.[136]

Blue Streak's fate was due to be sealed by the Defence Committee, but Sandys mounted a last-ditch attempt to save it. He said that three questions had to be answered before any decision was made, and his reasoning for each is worth considering at length, as, in this moment of desperation and uncertainty, Sandys returned to the core tenets of his belief system in making his case. The first question was 'Must it be invulnerable?' Watkinson had taken the Chief of Staff's position that Blue Streak was both vulnerable to a pre-emptive attack, as well as being 'politically unacceptable' on the basis that a peace-loving democracy could not possess something that could only be used to begin nuclear hostilities.[137] 'I entirely disagree', was Sandys' verdict, and he accused the Ministry of Defence and Chiefs of Staff of failing to provide any reasons for their position. His argument was that the 'effectiveness of the British deterrent cannot be considered in isolation'. To 'knock out' Blue Streak, the Soviet Union would have had to hit Britain with 1000 megatons of thermonuclear explosives. This would have killed a third of the population on the first day, and condemned 'many of the remainder' to fallout death. Not only did this render its apparent vulnerability irrelevant, since nobody would have lived to benefit from its retaliatory capabilities, but Sandys also argued that there was no way that the United States would have let such an act go unpunished. If the Soviet Union tried to attack Britain, it would have had to simultaneously launch a devastating attack on the United States, which it was not capable of doing. Had it eventually acquired the means and the will to do so, Sandys drolly suggested that a 'handful of British POLARIS submarines could hardly be expected to affect their decision'.[138]

If this may read like a full reversion to interdependence, he did consider independent action from the Soviet perspective. If they convinced themselves that the United States would not avenge Britain, they would still have had to assure themselves that Britain would abandon Western Europe. This would simply not have happened, as an attack on Britain 'would inevitably follow'. This all meant that 'Russia would not dare to make a preventative attack upon Britain'.[139] As well as confirming that Sandys' valued the retention of unilateral capabilities for valid (if unlikely)

strategic reasons, his belief in the inevitability of the Soviet Union turning on Britain is revealing. Previous sections have explored his staunch anti-communism, believing confrontation to be inevitable and comparing the emerging Cold War to the late-1930s. This informed his take on the 'fire-first' controversy, which also drew upon the concept of deterrent he had first used during the Radical Review:

> [If Britain] were to give the impression that we would in no circumstances be the first to fire a strategic nuclear weapon to repel a conventional attack, we would completely undermine the value of our deterrent. We would, in effect, be assuring the Russians that they could use their immense conventional superiority, without risk of nuclear retaliation. That would be little short of an invitation to aggression.[140]

Here Sandys furthered his previous logic. He did not consider nuclear weapons to belong to a different category of weapon, and he believed that in any war of vital national interests they would inevitably be utilised. Therefore, if Britain refused to use its own nuclear capabilities first, this ceded the initiative to the totalitarians. Unburdened by feelings of embarrassment over naked aggression, they had forced Western policy to become inherently reactive.[141] Credibility in this sense was as much bound up in the political will of politicians as it was in the capabilities of any particular weapon system. Even if Polaris and Skybolt could do everything their supporters promised, their credibility was undermined by the government of the day gifting the Soviet Union a free shot at destroying Britain.

His second question was 'Are other methods better?' He described Skybolt as 'immensely complex and entirely novel', predicting that its existence on the 'utmost limit' of technology would make it 'very much less reliable' than both Blue Streak and Polaris. To some extent he would go on to be proven correct about this, but it does once again raise questions as to why he was placing an arbitrary limit on development. He also argued that Skybolt could not carry 'decoys' like Blue Streak, so it was also easier to defend against, and its immunity was based on an ability to keep the V-bombers constantly 'at three to four minutes notice' (alternative schemes, such as the Air Ministry's idea of keeping manned aircraft constantly airborne, were discounted as 'extremely costly'). Polaris received similar criticism, as it shared most of Skybolt's apparent weaknesses. It did not have Blue Streak's range, and both its warhead and its counter-measure capacity were insubstantial.[142] He conceded that, although the two alternative systems could be said

to have the greater measure of invulnerability on account of their mobility, this was 'more of a theoretical than an actual asset':

> In theory, it might be useful to be able to deploy strategic nuclear weapons in the Middle East and the Far East … But it is inconceivable that we would ever wage war against China, except in alliance with the United States, whose nuclear power in the Pacific would not be significantly increased by any contribution we could make. Moreover, in such a situation, it would hardly be safe for us to deploy our limited deterrent force so far away from home.[143]

This again reads like a shift towards interdependence; but the implication is that Britain (if it had Blue Streak) did 'significantly increase' American nuclear power in Europe, and also that temporarily leaving Britain without a home-based deterrent could attract a Soviet pre-emptive attack, which implies that an independent British nuclear capability was a functioning deterrent in itself.

The third question was 'Will it save money?' His answer was no. Sandys claimed that over the next ten years Blue Streak would cost £515 million, which compared favourably with five years of Skybolt and nine Polaris submarines to replace it costing £50 million. This was increased over the next fifteen years, when Polaris costs would exceed £700 million, more than £150 million above the expected cost of keeping Blue Streak. Sandys had shown that Blue Streak was the 'cheapest method of maintaining the deterrent after 1965', and its importance was such that these costs did not necessarily have to come from the defence budget, as his hopes for Blue Streak as an instrument for space research meant that it could benefit from the allocation of normal civil expenditure.[144]

Because he had not been asked to consider Blue Streak in depth, Sandys had tried to save it by reverting to his well-established beliefs regarding the nature of deterrence and the utility of nuclear weapons; but the decision was to be made in a Defence Committee meeting on 24 February, and his isolation was about to become complete. The Air Ministry finally turned against Blue Streak as a military weapon in order to pursue their short-termist desire for replacement manned bombers; but it was Macmillan's intervention that fundamentally undermined Blue Streak going into the crucial meetings.[145] In this he framed Britain's nuclear capability as guaranteeing 'standing', and 'influencing American policy', rather than as a genuine nuclear strike capability, explicitly rejecting 'aiming to provide

a force capable by itself of deterring Russia'. He said that Britain 'must maintain a viable force in being, under our ultimate control, which is sufficiently large to accomplish our political purposes'; but these political purposes now solely referred to influencing alliance strategy, rather than destroying particular targets of importance to Britain. Macmillan said that he supported abandoning Blue Streak and relying on Blue Steel until 1966, from which point Skybolt would take the deterrent into 1970, before either continuing or making way for another mobile system.[146]

Macmillan's account of the crucial meeting reads 'General agreement reached (Duncan Sandys alone dissenting)', and the minutes bear this out.[147] Watkinson had recommended cancelling Blue Streak, noting an 'important consideration in favour of mobility' as being the 'difficulty facing a democratic Government in any prospective use of static "fire-first" weapons'. Sandys responded by reiterating the main points of his memorandum. Cancellation would fail to save money 'in the long term', and mobility brought no practical advantage to Britain's nuclear capability because the Soviet Union was incapable of launching simultaneous attacks on Britain and the United States. On the other hand, a 'fire-first' system could still prevent the overrunning of Western Europe if American support failed to materialise. He was forced to accept that decisions had to 'depend primarily upon financial considerations', but they could not ignore any 'technical judgment of the performance of the various weapons systems', which he thought ruled out Skybolt and the manned bombers it required. In spite of this, Sandys said that he would not oppose abandoning Blue Streak as a weapon provided development work continued as part of a British space programme, and the Committee provisionally agreed to its cancellation.[148]

Sandys had accepted defeat, but the minutes of the meeting do little to suggest that he had lost faith in Blue Streak, as the arguments made against it were applicable to his strategic concept. The Chancellor focused on its cost, but in general discussion it was suggested that a mobile deterrent would reduce the 'commitment for air defence of the deterrent', and have positive implications for civil defence planning.[149] Had Sandys' proposals been followed over the years, there would be no air defence burden. Nor would civil defence have remained an issue in terms of post-thermonuclear war planning, as he had long believed that Britain would not have survived the decisive opening phase. If Blue Streak was ever attacked, government calculations suggested that this opening phase would now be utterly fatal to Britain, making any further considerations a complete irrelevance.

Macmillan closed by saying that there was 'no more military value in a static missile', and that mobility 'made our deterrent more credible'.[150] The V-bombers were mobile, but if they could not guarantee an ability to strike at the Soviet Union, then their credibility (and the credibility of Britain as a nuclear power) was non-existent. This was why Blue Streak had been commissioned in the first place, and why Sandys remained unconvinced by Skybolt's comparative 'military value'. The following day he asked Macmillan whether the Defence Committee had truly considered this, pointing out that Skybolt was only as effective as the V-bombers. Apart from the risk of them simply being shot out of the sky, if they could not disperse within a short period of warning they were just as vulnerable as Blue Streak. In fact, they were 'incomparably' more vulnerable if pre-emptively attacked, because they would not be stored in reinforced concrete silos. Therefore, Skybolt was 'just as much a "fire-first weapon" as BLUE STREAK'.[151] This was a valid point, and one which the Air Ministry sought to dispel by using the same argument Sandys had used in favour of Blue Streak, saying 'it does not matter whether the V-bombers could or could not escape a Russian attack … I do not believe that the Russians could or would decide to attack us on the basis of such a fine but potentially suicidal calculation'.[152]

The Defence Committee officially cancelled Blue Streak on 6 April, and Sandys resigned himself to placing on record his belief that, 'from the military point of view', Skybolt had 'no marked advantage' over Blue Streak.[153] Macmillan informed the Cabinet of this decision, claiming to have been left satisfied during his recent trip to Washington that an adequate American replacement could be acquired, and it was left to Watkinson to break it to the Commons.[154] He did this with a short statement saying how Blue Streak was outdated. It was vulnerable, and 'launching missiles of considerable range from mobile platforms' was now a possibility.[155] Brown immediately began to gloat, calling it the 'most incredible chapter of obstinacy and of determination to go on with something long after all kinds of people everywhere were clear in their minds that it was wrong'. Labour had been against Blue Streak for some time, and, with some justification, they sought to focus on what they perceived as 'Ministerial and official incompetence and of a determination to hide it at the end of it all'.[156] Brown wanted an official inquiry into the programme, but when Watkinson tried to explain things by referring to what Sandys had said the previous February, he was interrupted by shouts of 'Where is he?' and calls for his resignation.[157]

Two weeks later Brown forced a debate about holding an inquiry, but he was really going after Sandys. He said that he did not wish to criticise him and his colleagues for being proven wrong, attacking them instead for having 'persisted in an error of judgment, which … they persisted in long after it became apparent to almost everybody that it would turn out to be a costly and abortive failure'.[158] Sandys gave as good as he got, asking Brown whether he thought it had been a mistake to commission Blue Streak.[159] Hansard gives the impression that Brown took exception to Sandys' line of questioning, attacking his record as Minister of Defence in response, accusing him of bearing 'personal responsibility' for the continuation of the programme, and of being 'guilty of persisting with a rocket which has failed to work and which has cost us large sums of money'. He put this down to the 'fallacy' at the heart of Sandys' strategic concept, his dependence on an independent nuclear capability, citing previous Labour complaints about Blue Streak as a 'fire-first' weapon:

> Not only did he not understand what we were arguing about here, but he did not understand what his own Service advisers were saying to him. He did not ever get to the bottom of what was worrying the Air Force. He was blind to all the arguments. This was why the advice reaching us did not make the impact on him which it made on us. He never saw the basic point of the advice.[160]

Sandys had obviously understood the issue. He simply disagreed with the idea of it being a problem. But, apart from that, Brown was right to accuse Sandys of having ignored other concerns which were now said to undermine Blue Streak. It was not just a case of it being an undesirable 'fire-first' weapon, but of paying no attention to the 'whole of the evidence at that time [which] was in favour of mobility and of solid fuel':

> The conclusion can only be, therefore, that all the information was available, that it was all opposed to going on with Blue Streak and that the Minister nevertheless persisted with Blue Streak for eighteen months … It is, therefore, the Minister's determination to persist with the project, against the weight of the evidence, which is the basic accusation which we make against him.[161]

Watkinson defended the government, and Jones, now on the back-benches, defended both Sandys and Blue Streak. Harold Wilson, the Shadow Chancellor joined the Labour attack, quoting the *Financial Times* as saying

'Blue Streak survived as long as it did simply because Mr. Duncan Sandys is an extremely obstinate man'. The crux of their argument chimed with what Labour alleged: 'He based his defence policy on the deterrent, and he based the future delivery of the deterrent on Blue Streak. So long as he was Defence Minister he was a jealous patron of the project against all comers and, indeed, against all arguments.'[162] This captures the argument of this book nicely, and, when Sandys finally spoke, he did not attempt to evade personal responsibility, but nevertheless contextualised his position:

> I suppose that I have had more to do with rockets—at both ends—than any other hon. Member. In the war-time Coalition Government I was the Minister responsible for defence against the German V-1 and V-2 weapons, and since 1951 I have been concerned with missiles at the Ministry of Supply, the Ministry of Defence and now at the Ministry of Aviation. I therefore readily recognise that I am accountable in a special degree for the decisions that have been taken.[163]

He added that 'I am convinced that the decisions that we have taken were right, in the circumstances obtaining when they were taken, all the way through', and claimed that 'Blue Streak has not been stopped because of any technical failure'. Had it been completed, he was 'confident that it would have had as fine a performance as any medium-range rocket made in Russia or America'.[164] Sandys defended Blue Streak against the background of his original White Paper, 'an essential part' of which was that 'Britain should possess nuclear weapons of her own, and the means of delivering them'. With manned bombers becoming increasingly vulnerable to air defences, the 'only kind of weapon' that could guarantee credibility was a ballistic missile.[165] He then recalled his 1954 and 1958 visits to the United States, claiming that 'I have, in fact, from the very start been consistently trying to substitute an American weapon for Blue Streak so as to save money'.[166] Clark has suggested that Sandys might have been guilty here of 'retrospective rationalization to portray an image of consistency in Government policy in the light of the decision to scrap Blue Streak and purchase Skybolt in its stead', whilst also writing that there was no viable substitute for Blue Streak on offer during this period.[167] In viewing Blue Streak in terms of government policy, rather than Sandys' personal approach, Clark concludes that 'if the advice of the Chiefs was compelling in 1960, it should have been equally compelling much sooner', making the government 'guilty of political cowardice in the short term'.[168] Put

simply, the Chiefs of Staff reasoning was not compelling to Sandys. Nor would it ever have been. Therefore, he cannot be accused of trying to reconcile his actions to arguments for which he had no regard. He would have happily substituted Blue Streak for an American weapon; it was just that none of them were considered to be worthwhile substitutions owing to both political and technical shortcomings. This is why he 'had no alternative but to continue with the development of Blue Streak'.[169]

Conclusion

In his memoirs Macmillan wrote 'I am not now convinced that it was wise' to cancel Blue Streak.[170] He believed that it would have worked perfectly had it received adequate backing, but his perspective was no doubt coloured by the crisis Britain was thrown into by the cancellation of Skybolt. This has been covered briefly, and a lengthy history of the acquisition of Polaris is not merited, particularly as Sandys' influence on the defence policy-making process was all but ended in July 1960 with his move to the Commonwealth Relations brief; but is worth mentioning that when Macmillan convinced the United States to let Britain in on the project, he went to great lengths to stress its operational independence. He insisted that any declaration of joint policy allowed for an exception 'where Her Majesty's Government may decide that the supreme national interests are at stake', and when he returned to Britain having secured this he appeared convinced of the need for an independent nuclear capability.[171] Having detected some scepticism in Kennedy's advisors, which he attributed to the fact that his government 'included hardly any of the men who had been associated with this country in the Second World War', he defiantly reminded the Cabinet that Britain's atomic weapons programme had predated the United States', and provided four reasons why Britain had to maintain its nuclear independence:

1. The Western Alliance would 'cease to be a free association' if nobody else had nuclear weapons.
2. The United States could theoretically abandon Britain in the face of Soviet aggression.
3. The Soviet nuclear threat, with no British counter threat, rendered conventional forces worthless.
4. Giving up nuclear weapons entirely would remove Britain from disarmament talks.

He had, therefore, requested Polaris on account of its 'high degree of indestructibility', its second-strike capabilities and its mobility; and he had got it in spite of American policy-makers' worries that it 'would extent [*sic*] (extend) the effectiveness and credibility of the United Kingdom deterrent for an almost indefinite period in the future', which he said they had opposed as it could potentially undermine their nascent plans for pooling Western nuclear resources under their supervision.[172]

If this had become Macmillan's position on nuclear capabilities in later life, it represents both a remarkable reversal of his proposals that had killed Blue Streak, as well as a move towards what Sandys had consistently advocated. In February 1960 he had rejected maintaining an ability to devastate the Soviet Union in favour of having just enough nuclear power to command American attention. Perhaps the reluctance he had encountered in the Kennedy administration had convinced him that the Anglo-American partnership was not as strong as it had been under Eisenhower (who had a firm association with both Britain and Macmillan personally), but his move back towards an insurance policy of unilateral capabilities was important.[173] He had told the Cabinet that Polaris' second-strike capability made it suitable, but in coming to regret the cancellation of Blue Streak, despite its sole use as a 'fire-first' weapon, it would imply that he had retrospectively come to see Sandys' interpretation of deterrence as having been correct. It has been mentioned how, during his own period as Minister of Defence, Macmillan had accepted that 'if the Russians attacked (which is *very* unlikely) with conventional weapons only, in the first instance, we should be forced into the position of *starting* the nuclear war', so why did he fail to support Sandys' position at the time?

Clark has summed up Sandys' involvement with Blue Streak by describing him as a 'vocal champion, apart from some wavering in late 1958 but a champion who, having to contend with a wider empire, could not afford the parochial dedication to the missile which was demonstrated by the Air Staff'.[174] His 'wavering' over Thor aside, which has been shown to have not been a direct threat to Blue Streak, Sandys' approach to Blue Streak was utterly parochial. Unlike the Air Ministry, he never turned against it in favour of new aircraft, and we have seen the lengths he went to in supporting it. Perhaps Clark's characterisation would better suit Macmillan. His strategic concept was originally strikingly similar to what Sandys advocated, but his 'wider empire', whether having to balance departmental budgets, stave off Labour Party attacks, or increase British influence in United States policy-making, prevented him from letting his Minister of

Defence have it all his own way. Sandys was forced to make similar compromises in major aspects of his defence review, but he refused to compromise on Blue Streak. Blue Streak was, as his critics alleged, the basis of his entire strategic concept. Where he could allow debates over air defence and aircraft carriers to go against him, he could not sacrifice Blue Streak; and if this meant convincing himself that solid fuels were inherently weak, that over-spending was 'inevitable', or that the Soviet Union would sink submarines under the polar ice caps, then he did so because of his parochial dedication to this particular weapon system.

Notes

1. See: Boyes, *Project Emily*, pp. 13–18; Groom, *British Thinking About Nuclear Weapons*, pp. 36–37; Morton, P., *Fire Across the Desert: Woomera and the Anglo-Australian Joint Project, 1946–1980* (Canberra: Australian Government Publishing Service, 1989), pp. 5–10.
2. Fuller and Liddell Hart were quick to see this 'master weapon' would ensure that 'the problem of security has undergone a fundamental change'; Fuller, J. F. C., *Armament and History: A Study of the Influence of Armament on History from the Dawn of Classical Warfare to the Second World War* (London: Eyre and Spottiswoode, 1946), pp. 194–195; Liddell Hart, B. H., *The Revolution in Warfare* (London: Faber and Faber, 1946), p. 83; even Arthur 'Bomber' Harris, who laid Germany to waste as Commander-in-Chief of Bomber Command, wrote in 1947 that ballistic missiles would eventually prove a 'much more efficient' means of delivering the nuclear weapons he felt would revolutionise warfare, whilst predicting that the Air Force 'will go on the way of the other services and tend to cling to the antiquated weapons with which it will conceive its interests to be bound up'; Harris, A., *Bomber Offensive* (London: Collins, 1947), p. 272.
3. 'The Long Range Surface-to-Surface Weapon: 16 January, 1953'; AIR 2/13206.
4. 'Air Staff Target No. OR/203 (Issue 2)–A Long Range Surface-to-Surface Guided Weapon: 14 August, 1953'; AIR 2/13206; Internal Note: 15 March, 1955; AIR 19/813.
5. 'The R.A.F. Ballistic Rocket: Report by the Deputy Chief of the Air Staff, 18 April, 1955'; AIR 19/813.

6. 'Air Staff Requirement NO. O.R./1139–A Medium Range Ballistic Missile System: 8 August, 1955'; AIR 2/13206.
7. AIR 19/813 contains several progress reports from 1956 which claim American observers were impressed with the speed of British developments; see also: Clark, *Nuclear Diplomacy*, pp. 165–166; Navias, *Nuclear Weapons and British Strategic Planning*, pp. 121–122.
8. 'U.K. Ballistic Missile Requirements: Defence Research Policy Staff, 27 July, 1956'; DEFE 7/2246.
9. This was the Avro 730, the cancellation of which was announced in the White Paper; Navias, *Nuclear Weapons and British Strategic Planning*, pp. 120–123.
10. He also warned against the United States abandoning Europe once the Soviet Union acquired the means to strike them directly; 'U.K. Development of Ballistic Missiles: Memorandum by the Minister of Defence, 25 September, 1956'; DEFE 7/2246.
11. See: Boyes, *Project Emily*, p. 47; Groom, *British Thinking About Nuclear Weapons*, p. 257; Hill, *Vertical Empire*, p. 83.
12. Powell to Roger Makins: 23 August, 1957; DEFE 7/2246; the Ministry of Supply also wrote to the Chancellor claiming that 'financial limits on expenditure are definitely holding back progress'; Aubrey Jones to Peter Thorneycroft: 6 September, 1957; DEFE 7/2246.
13. Goodman, M. S., *The Official History of the Joint Intelligence Committee: Volume I–From the Approach of the Second World War to the Suez Crisis* (Abingdon: Routledge, 2014), p. 134; Kendall and Post, 'Reminisces and Discoveries', p. 234.
14. 'U.K. Development of Ballistic Missiles (First Draft): 27 May, 1957'; DEFE 7/2246.
15. 'United Kingdom Development of Ballistic Missiles: Memorandum by the Minister of Defence (Draft), 11 June, 1957'; Sandys' handwritten note was made the following day; DEFE 7/2246.
16. R. C. Chilver to Sandys: 24 June, 1957; DEFE 7/2246.
17. Discussion centred on defence expenditure, naval construction, fighter command, colonial defence requirements, and manned bombers; CAB 131/18, D. (57) 6th Meeting: 31 July, 1957 and CAB 131/18, D. (57) 7th Meeting: 2 August, 1957.
18. Maurice Dean to Ward: 4 March, 1957; AIR 19/856; loose notes: 2 April, 1957; AIR 19/849; in January the Air Ministry had writ-

ten to Sandys saying, 'we should insist on continuing to keep it (Blue Streak) in our programme not only because we want it but also because, politically, we cannot afford to be dependent upon America for this vital weapon. Operationally and technically we must be free'; 'Note for the Minister of Defence: 24 January, 1957'; AIR 2/14712.

19. 'Fighter Command: Note by the Minister of Defence, 13 November, 1957'; DSND 6/10.
20. Ibid.
21. Macmillan told the Cabinet that 'public opinion … would be liable to react adversely to our apparent inability to provide a defence for the deterrent'; CAB 131/18 D. (57) 14th Meeting: 31 December, 1957; CAB 128/31/596: 31 December, 1957; he had noted in his diary the previous month that the issue being 'politically dynamite' complicated an otherwise straightforward question: 'A huge sum of money is spent on it, but I don't believe they could protect us from Russian bombers'; 20 November, 1957 and 23 December, 1957; Catterall, *The Macmillan Diaries: 1957–1966*, pp. 73–74 and p. 80.
22. He quotes Boyle's recollection that, 'I was totally opposed to Sandys's sudden policy of no more manned fighting aircraft'; Boyle to Lawrence Freedman: 18 May, 1988; Navias, *Nuclear Weapons and British Strategic Planning*, pp. 172–175.
23. Sandys to Ward: 26 November, 1957; DSND 6/7; *Navias, Nuclear Weapons and British Strategic Planning,* p. 174.
24. 'Fighter Command: Note by the Minister of Defence, 13 November, 1957'; DSND 6/10.
25. 'Defence White Paper: Draft B, 13 March, 1957'; ADM 205/114; *Defence: Outline of Future Policy*; DSND 6/52.
26. Existing orders provided for an eventual force of 176, only 40 of which would be Mark IIs; CAB 131/18, D. (57) 2nd Meeting: 27 February, 1957.
27. 'The Strategic Bomber Force: Memorandum by the Minister of Defence, 27 May, 1957'; CAB 130/22, GEN. 570/2; CAB 130/22, GEN 570 1st Meeting: 29 May, 1957; 'Strategic Bomber Force: Memorandum by the Minister of Defence, 26 July, 1957'; CAB 131/18, D. (57) 15.
28. Navias, *Nuclear Weapons and British Strategic Planning*, p. 171.
29. CAB 131/18, D. (57) 7th Meeting: 2 August, 1957.

30. CAB 131/18, D. (57) 7th Meeting: 2 August, 1957.
31. Navias, *Nuclear Weapons and British Strategic Planning*, pp. 171–172.
32. £54 million over five years—less than one per cent of projected defence spending over that period. Based on the figures included in 'Strategic Bomber Force: Memorandum by the Minister of Defence, 26 July, 1957'; CAB 131/18, D. (57) 15.
33. 'Defence Turning Point', p. 31; NHP/SR2.
34. Sandys' personal copy of *Britain's Contribution to Peace and Security*; DSND 6/52.
35. 'Timetable for the 1958 Defence White Paper and 1958/59 Defence Estimates: 5 December, 1957'; DEFE 7/986.
36. 'Defence White Paper, 1958—1st Draft: 13 January, 1958'; further draft of 20 January, 1958; 'Defence White Paper, 1958: 22 January, 1958'; DEFE 7/986.
37. Printed drafts of 29 and 31 January, and 3 February; DEFE 7/987.
38. 'Defence White Paper, 1958: 5 February, 1958'; CAB 129/91, C (58) 30; 'Defence White Paper, 1958: 6 February, 1958'; CAB 129/91 C (58) 34 and 'Defence White Paper, 1958: 8 February, 1958'; CAB 129/91 C (58) 39.
39. Hansard HC vol. 583, cols. 382–501 (26 February, 1958) and HC vol. 583, cols. 554–681 (27 February, 1958).
40. Hansard HC vol. 590, cols. 396–397 (25 June, 1958).
41. 'The Blue Streak Development Programme: Note by the Minister of Supply, 6 August, 1957; DEFE 7/2246; Jones to Sandys: 18 October, 1957; DEFE 7/2246.
42. E. C. Williams to Sandys: 22 October, 1957; DEFE 7/2246; Clark, *Nuclear Diplomacy*, p. 169; Groom writes that by January a likely increase in costs was 'worrying officials'; Groom, *British Thinking About Nuclear Weapons*, p. 257.
43. 'Observations on the Blue Streak Programme: W. H. Wheeler' (no date is listed, but Jones referred to the report on 3 January 1958, so Sandys must have asked Wheeler before the New Year; D. W. Ward to Frederick Brundrett: 8 January, 1958; DEFE 7/2246; Jones to Sandys: 3 January, 1958: DEFE 7/2246.
44. Brundrett to Sandys: 3 January, 1958; DEFE 7/2246; D. W. Ward to Brundrett: 7 January, 1958; DEFE 7/2246; Clark, *Nuclear Diplomacy*, p. 161; Jones to Sandys: 24 January, 1958; DEFE 13/193.

45. Jones to Sandys: 24 January, 1958; DEFE 13/193.
46. Brundrett wrote to Sandys on 2 January about the basic need to 'get the emphasis shifted from the manned aircraft to the unmanned missile field': 2 January, 1958 cited in Clark, *Nuclear Diplomacy*, p. 166.
47. 'Blue Streak Progress: Note by the Deputy Chief of the Air Staff, 11 February, 1958'; AIR 19/813.
48. 'Meeting of Minister of Defence with Minister of Supply on 11 April, 1958'; DEFE 7/2246.
49. 'Blue Streak: Note by the Deputy Chief of the Air Staff, 11 April, 1958'; AIR 19/813.
50. In a June report on Blue Streak, Tuttle urged that the 'views expressed in the paper and many of the figures should not be used outside the Air Ministry … There is clearly a course between having so few missiles that development could be said to be not worthwhile, and asking for so many that Ministers might think the bill impossibly large'; 'Deployment of Blue Streak–Size of Force Required: Note by the Deputy Chief of the Air Staff, 12 June, 1958'; AIR 19/813.
51. 'Measures Suggested for Hastening the Programme: Note by the Ministry of Supply, 23 April, 1958'; DEFE 13/193; 'Blue Streak Launching Sites: Note by the Air Ministry, 5 May, 1958'; DEFE 13/193.
52. 'Report of the Working Party on Blue Streak: 6 June, 1958'; DEFE 13/193.
53. 'Blue Streak: Meeting of the Minister of Defence, with the Secretary of State for Air and the Minister of Supply on 16 June, 1958'; DEFE 13/193.
54. Ibid.; William Cook, who ran the engineering and development side of the Atomic Energy Authority (and who had led the thermonuclear bomb project), advised the working party that an independent Thor was the 'surer method of having early a British ballistic missile', so Sandys asked Brundrett and Powell to 'consider its implications'; 'Working Party on Blue Streak: Note by William Cook, August, 1958'; DEFE 7/2246; Cook to Sandys: 15 July, 1958 and D. W. Ward to Powell: 16 July, 1958; DEFE 7/2246.
55. 'Blue Streak: Meeting of the Minister of Defence, with the Secretary of State for Air and the Minister of Supply on 16 June, 1958'; DEFE 13/193.

56. 'Letter from the Minister of Defence to the Chancellor of the Exchequer (Draft)'; DEFE 13/193.
57. Ibid.
58. 'Letter to the Chancellor of the Exchequer (Draft 2)'; DEFE 13/193.
59. Ibid.; Sandys to Derick Heathcoat-Amory: 14 July, 1958; DEFE 13/193.
60. 'Ballistic Rockets: Memorandum by the Minister of Defence, 8 September, 1958'; CAB 131/20, D (58) 47.
61. 'Extract from Defence Board Conclusions: 1st Meeting, 31 July, 1958'; DEFE 7/2300.
62. Ibid.
63. Ibid.
64. Powell to Sandys: 6 August, 1958; DEFE 7/2246.
65. Chilver to Powell: 6 August, 1958; DEFE 7/2246.
66. 'I.R.B.M. Policy (Draft): Undated, but probably late August'; DEFE 7/2246.
67. E. C. Williams to Chilver: 28 August, 1958; DEFE 7/2246.
68. Ibid.
69. 'Ballistic Rockets: Memorandum by the Chief Scientist, Ministry of Defence, 14 October, 1958'; DEFE 7/2246.
70. Record of a meeting at the Ministry of Defence: 14 October, 1958; DEFE 7/2246.
71. Jones to Sandys: 15 October, 1958; AIR 19/813.
72. Ibid.
73. 'Defence Board minutes: 20 October, 1958'; AIR 19/813.
74. 'Meeting of the Minister of Defence with the Chiefs of Staff: 28 October, 1958'; DEFE 7/2300; see also: Ziegler, *Mountbatten*, p. 561; Grove, *Vanguard to Trident*, p. 232.
75. 'Meeting of the Minister of Defence with the Chiefs of Staff: 28 October, 1958'; DEFE 7/2300.
76. 'Ballistic Rockets: Memorandum by the Minister of Defence, October, 1958 (Draft)'; DEFE 7/2246.
77. 'Ballistic Rockets: Memorandum by the Minister of Defence, 3 November, 1958'; CAB 131/20, D (58) 57; CAB 131/19, D (58) 24th Meeting: 5 November, 1958.
78. Clark, *Nuclear Diplomacy*, p. 174.
79. 'Defence White Paper, 1959 (Draft): 24 November, 1958'; DEFE 7/991.

80. 'Defence White Paper, 1959 (Draft): 23 December, 1958'; DEFE 7/991.
81. Powell to L. J. Sabatini: 6 January, 1959; DEFE 7/991.
82. 'Ballistic Rockets: Memorandum by the Minister of Defence, 16 November, 1958'; CAB 131/20, D (58) 63.
83. Jones to Sandys: 15 October, 1958; AIR 19/813; 'Ballistic Rockets: Memorandum by the Minister of Defence, 16 November, 1958'; CAB 131/20, D (58) 63.
84. 'Ballistic Rockets: Memorandum by the Minister of Defence, 16 November, 1958'; CAB 131/20, D (58) 63.
85. 'Defence White Paper, 1959 (Draft): 8 January, 1958'; DEFE 7/991.
86. 'Defence White Paper, 1959: 30 January, 1959'; CAB 129/96 C. (59) 12 and 'Defence White Paper, 1959: 5 February, 1959'; CAB 129/96 C. (59) 14; CAB 131/21, D. (59) 3rd Meeting: 4 February, 1959; Sandys' personal copy of *Progress of the Five Year Defence Plan*; DSND 6/52.
87. Hansard HC vol. 600, col. 1131 (25 February, 1959).
88. Hansard HC vol. 600, col. 1136 (25 February, 1959).
89. Hansard HC vol. 600, cols. 1136–1138 (25 February, 1959).
90. Hansard HC vol. 600, col. 1132 (25 February, 1959).
91. Hansard HC vol. 600, col. 1136 (25 February, 1959).
92. 'Back from Bikini–Frank Beswick M.P.'; *The Spectator*: 12 September, 1946.
93. Hansard HC vol. 600, cols. 1136–1137 (25 February, 1959); for the development of the Liberal Party's policies, see: Groom, *British Thinking About Nuclear Weapons*, pp. 145–146, p. 231, and p. 492.
94. Hansard HC vol. 600, col. 1138 (25 February, 1959).
95. Clark, *Nuclear Diplomacy*, p. 175.
96. Hansard HC vol. 600, col. 1140 (25 February, 1959).
97. Hansard HC vol. 600, col. 1162 (25 February, 1959).
98. Hansard HC vol. 600, col. 1418–1419 (26 February, 1959).
99. Hansard HC vol. 600, cols. 1422–1423 (26 February, 1959).
100. To give one example, in a memorandum on anti-aircraft missiles circulated at the height of the Blue Streak debate, Sandys suggested that they offered the 'only hope of defence against the ballistic rocket'; 'Anti-Aircraft Missiles: Memorandum by the Minister of Defence, 14 November, 1958'; CAB 131/20, D.

(58) 67; Brundrett may have been influential in convincing Sandys that it was 'technically feasible' to destroy a ballistic missile in flight, although he himself had decided by the end of 1959 that it was unlikely; see: Stocker, J., *Britain and Ballistic Missile Defence: 1942–2002* (London: Frank Cass, 2005), pp. 64–74.

101. See: Dillon, G. M., *Dependence and Deterrence: Success and Civility in the Anglo-American Special Nuclear Relationship, 1962–1982* (Aldershot: Gower, 1983), pp. 102–124; Grove, *Vanguard to Trident*, p. 348; Stocker, *Britain and Ballistic Missile Defence*, pp. 136–138.
102. Sandys had been told in Washington, where it was suggested that Blue Streak could utilise a lighter warhead to make room, that even Thor could see its weight drastically reduced by the simple use of a redesigned nose cone; 'Co-operation in Missile Development (2): 24 September, 1958' in 'Record of Meetings … Washington, D. C.: September 22–25, 1958'; DSND 6/37.
103. Powell to Sandys: 23 March, 1959; DEFE 7/2300.
104. Powell to Sandys: 8 May, 1959; DEFE 7/2300.
105. 'British Nuclear Deterrent Study Group–Composition and Terms of Reference: Note by the Permanent Secretary, Ministry of Defence, June, 1959'; DEFE 7/2300.
106. 'British Nuclear Deterrent Study Group–Task of British Controlled Contribution to Nuclear Deterrent: Note by the Joint Secretaries, 17 July, 1959'; DEFE 7/2300.
107. Jones to Sandys: 1 September, 1959; DEFE 7/2247.
108. Heathcoat-Amory to Jones: 8 September, 1959; AIR 19/813.
109. Jones to Heathcoat-Amory: 15 September, 1959; DEFE 7/2247.
110. Sandys to Heathcoat-Amory: 15 September, 1959; AIR 19/813.
111. 'British Nuclear Deterrent Study Group: Possible Future Nuclear Deterrent Weapon Systems, 15 September, 1959'; DEFE 7/2216.
112. 'If anyone can tackle the job, Duncan Sandys is the man'; 18 October, 1959; Catterall, *The Macmillan Diaries: 1957–1966*, pp. 251–252; Macmillan, H., *Pointing the Way: 1959–1961* (London: Macmillan, 1972), p. 19; see also: Horne, *Macmillan: Volume II*, p. 215; Macmillan had written in his diary that Sandys wanted to be Foreign Secretary, but was happy to stay at the Ministry of Defence provided he could force through a '*complete* reorganisation, and centralisation of the Higher Ministerial con-

trol and commands', although Macmillan expected this to prove 'full of difficulties'; 16 September, 1959; Catterall, *The Macmillan Diaries: 1957–1966*, p. 247; Sandys claimed in his memoir that Macmillan had offered to let him stay at the Ministry of Defence, but the fact that he also offered him 'another office with wider scope' once he had rationalised the aircraft industry implies that he had wanted him to leave; *Sandys Memoir*, p. 21.

113. Watkinson, H., *Turning Points: A Record of Our Times* (Salisbury: Michael Russell, 1986), pp. 107–113; Mountbatten revelled in this new atmosphere, writing to his wife that Watkinson 'gets advice with a single voice through me, instead of the many rival views Duncan used to get'; Ziegler, *Mountbatten*, pp. 580–581; Baylis writes that Watkinson 'In contrast to his predecessor … had become convinced that British policy had become over-dependent on nuclear weapons and he wanted to alter the balance in favour of conventional capabilities'; Baylis, *Ambiguity and Deterrence*, p. 307; Sandys explained the table in his memoir. The Chiefs of Staff had told him that he was welcome to attend 'any of their more important meetings', but that they could not meet Sandys regularly as his office did not have a big enough table. He resolved this by switching offices with Powell, who also managed to acquire a 'long mahogany table and an ample number of chairs' from the Ministry of Works; *Sandys Memoir*, 17/A/2-3.
114. 'The Influence of Nuclear Missile Firing Submarines on the Nuclear Exchange: Report by the Joint Global War Study Group, 9 October, 1959'; DEFE 7/2300.
115. 'The Time Factor and the Deterrent: Report by the Joint Global War Study Group, 16 October, 1959'; DEFE 7/2300.
116. 'Soviet Attack on Missile Sites in the United Kingdom: Report by the Joint Global War Study Group, 16 October, 1959'; DEFE 7/2300; Tuttle thought Blue Streak could have withstood anything up to a thousand megatons spread out across its underground sites, and that if the Soviet Union was launching such a massive bombardment as to be able to spare that amount of power for Blue Streak sites, Britain would be destroyed anyway; Tuttle to Ward: 15 October, 1958; AIR 19/813.
117. 'British Nuclear Deterrent Study Group: Minutes of a Meeting Held in Sir Richard Powell's Room, Ministry of Defence, 10 November, 1959'; DEFE 7/2216.

118. Mountbatten to Powell: 5 November, 1959; DEFE 7/2162.
119. Sandys to Heathcoat-Amory: 25 November, 1959; AIR 19/813.
120. Clark, *Nuclear Diplomacy*, p. 177.
121. Sandys to Heathcoat-Amory: 25 November, 1959; AIR 19/813.
122. 'Air Ministry Strategic Scientific Policy Committee: Notes of a Meeting with Representatives of the Foreign Office in the Air Control Room, 2 December, 1958'; the Zuckerman Archive, University of East Anglia, Norwich; SZ/AMSSP/1.
123. 'Air Ministry Strategic Scientific Policy Committee: Notes of a Meeting held in the Air Ministry, 7 May, 1959'; SZ/AMSSP/1; 'Air Ministry Strategic Scientific Policy Committee: Notes of a Meeting held in the Air Ministry, 25 May, 1959'; SZ/AMSSP/1; the Air Ministry concluded that Blue Streak would remain a credible deterrent until 1970, when the Soviet Union could preemptively destroy it, at which point one of three alternative delivery systems would become essential. One was Polaris and another was a 'long-endurance aircraft' that could skip between overseas bases and present a moving target. This might have been possible, depending on the cost of the proposed aircraft, but their preferred third option was simply unrealistic. This called for 'about 50 aircraft, carrying one or two missiles each, airborne constantly throughout the year'. It was suggested that the aircraft themselves did not have to be particularly advanced, but the economic and financial implications of such a suggestion would have been well beyond British capabilities; 'The Nuclear Deterrent–1970 and After: Note by the Air Ministry Strategic Scientific Policy Committee, 5 October, 1959'; DEFE 7/2300; Strategic Air Command attempted something similar during the 1960s with Operation Chrome Dome, but a number of accidents involving nuclear-armed B-52 bombers eventually saw the programme cancelled in early 1968.
124. 'British Controlled Contribution to the Nuclear Deterrent: Interim Report by the British Nuclear Deterrent Study Group, 31 December, 1959'; DEFE 7/2216.
125. Powell to Watkinson: 31 December, 1959; DEFE 7/2216.
126. Sandys to Heathcoat-Amory: 8 January, 1960; AIR 19/813.
127. Sandys to Heathcoat-Amory: 25 January, 1960: AIR 19/813.
128. Hill, *Vertical Empire*, p. 104.
129. Heathcoat-Amory to Sandys: 4 February, 1960; AIR 19/813.

130. 'British Nuclear Deterrent: Minute by the Permanent Secretary, 22 January, 1959'; DEFE 7/2247.
131. Hogg to Watkinson: 28 January, 1960; DEFE 7/2247.
132. CAB 128/34, CC. (60) 7: 11 February, 1960; this approach had been utilised in the draft White Paper the Cabinet had considered. In this Blue Streak was 'continuing' and mobile systems were framed as supplementary weapons as it said 'it may be decided not to rely exclusively on fixed-site missiles'; 'White Paper on Defence (Draft): 8 February, 1960'; CAB 129/100, C. (60) 14.
133. Watkinson to Mountbatten: 2 February, 1960; ADM 205/202.
134. 'British Controlled Contribution to the Nuclear Deterrent: Memorandum for the Minister of Defence by the Chiefs of Staff, 5 February, 1960'; AIR 19/891.
135. William Strath to Edward Playfair: 10 February, 1960; DEFE 7/2247; this was an interesting response from the Sandys-led ministry, as the Ministry of Supply had said similar things about the effects of his first White Paper. See: 'Effects of the White Paper on the Civilian Aircraft Industry: Note by the Minister of Supply, 1 July, 1957'; 1 July–CAB 129/88, C. (57) 154; 'Effects of the White Paper on the Aviation Industry: Note by the Minister of Supply, 1 July, 1957'; CAB 129/88, C. (57) 155.
136. Playfair to Watkinson: 19 February, 1960; DEFE 7/2247.
137. Watkinson later wrote, 'we had to get rid of the remaining vestiges of any "fire-first" philosophy. No nuclear power should be able to believe that by striking first it could win all'; Watkinson, *Turning Points*, p. 121.
138. 'Blue Streak: Note by the Minister of Aviation, 19 February, 1960'; AIR 19/813.
139. Ibid.
140. Ibid.
141. Quincy Wright said that democracies were at a disadvantage 'in the game of power diplomacy', as 'They cannot make effective threats unless they really mean war; they can seldom convince either themselves or the potential enemy that they really do mean war; and they are always vulnerable to the dissensions of internal oppositions'; Wright, Q., *A Study of War: Second Edition, with a Commentary on War since 1942* (Chicago: University Press, 1965), p. 842; Fuller illustrated this with a classical allusion to the

democratic Athenians and Philip of Macedon, the autocrat: '"So you", thundered Demosthenes, "if you hear of Philip in the Chersonese, vote an expedition there, if at Thermopylae, you vote one there; if somewhere else, you keep pace with him to and fro. You take your marching orders from him; you have never formed any plan of campaign for yourselves, never foreseen any event, until you learn that something has happened or is happening … Our business is not to speculate on what the future may bring forth, but to be certain that it will bring disaster, unless you face the facts and consent to do your duty."'; Fuller, J. F. C., *The Conduct of War, 1789–1961* (London: Eyre & Spottiswoode, 1961), p. 319.

142. 'Blue Streak: Note by the Minister of Aviation, 19 February, 1960'; AIR 19/813.
143. Ibid.
144. Ibid.
145. In a remarkably blinkered proposal, the Air Ministry wanted Blue Streak cancelled but sought to 'keep alive the technique of building long range rockets' so Britain could maintain an independent nuclear capability beyond the life-span of its immediate replacement, which they hoped would be the V-bomber successor they craved; Ward to Watkinson: 23 February, 1960; AIR 19/813.
146. 'Deterrent Policy: Memorandum by the Prime Minister: 24 February, 1960'; CAB 131/23, D. (60) 2.
147. 24 February, 1960; Catterall, *The Macmillan Diaries: 1957–1966*, p. 274; Sandys' memoir blames Watkinson ad the Service Ministers; *Sandys Memoir*, p. 21.
148. CAB 131/23, D. (60) 1st Meeting: 24 February, 1960.
149. Ibid.
150. Ibid.
151. Sandys to Macmillan: 25 February, 1960; AVIA 66/2; 'Vulnerability of Bomber Force: Note by the Minister of Aviation: 30 March, 1960'; AVIA 66/2.
152. Ward to Macmillan: 1 March, 1960; DEFE 7/2063; Hill has written that the various systems were never considered 'on a level pitch', and that 'the criteria that were applied to Blue Streak were not being applied to the V-bombers with Skybolt'; Hill, *Vertical Empire*, p. 103.
153. CAB 131/23, D. (60) 3rd Meeting: 6 April, 1960.

154. CAB 128/34, CC. (60) 26: 13 April, 1960; 'Blue Streak: Memorandum by the Prime Minister, 8 April, 1960'; AIR 19/813.
155. Hansard HC vol. 621, col. 1265 (13 April, 1960).
156. Hansard HC vol. 621, cols. 1266–1267 (13 April, 1960).
157. Hansard HC vol. 621, col. 1269 (13 April, 1960).
158. Hansard HC vol. 622, cols. 211–212 (27 April, 1960).
159. Hansard HC vol. 622, cols. 214–215 (27 April, 1960).
160. Hansard HC vol. 622, cols. 215–219 (27 April, 1960).
161. Hansard HC vol. 622, cols. 220–224 (27 April, 1960).
162. Hansard HC vol. 622, col. 323 (27 April, 1960).
163. Hansard HC vol. 622, cols. 330–331 (27 April, 1960).
164. Hansard HC vol. 622, col. 331 (27 April, 1960).
165. Hansard HC vol. 622, col. 331–333 (27 April, 1960).
166. Hansard HC vol. 622, cols. 335–336 (27 April, 1960).
167. Clark, *Nuclear Diplomacy*, p. 159 and pp. 184–189.
168. Ibid., pp. 188–189; Pierre made a similar allegation, suggesting that Sandys stuck with Blue Streak 'in the hope of being able to rebut the opposition's criticisms'; Pierre, *Nuclear Politics: The British Experience* …, p. 310.
169. Hansard HC vol. 622, cols. 333–335 (27 April, 1960).
170. Macmillan, *Pointing the Way*, p. 251.
171. CAB 128/36, CC. (62) 76: 21 December, 1962.
172. CAB 128/37, CC. (63) 2: 3 January, 1963.
173. 'He would trust this President [to defend Britain], but what about his successors?'; Horne, *Macmillan: Volume II*, p. 440.
174. Clark, *Nuclear Diplomacy*, p. 164; on the other hand, Baylis writes: 'Despite his own periodic doubts, he retained faith in Blue Streak and urged the government to continue with the project right up to its cancellation in February 1960'; Baylis, *Ambiguity and Deterrence*, p. 279.

CHAPTER 7

Conclusions

This book has argued that Sandys' policy preferences, and the decisions that he made in office, were the practical realisation of a personal nuclear belief system formed out of his interpretation of the role he had played in the fight against unmanned German weaponry during the Second World War. This belief system proved highly influential in helping Sandys to navigate the uncertain and ambiguous strategic landscape in which the defence policy-making processes of the 1950s and early 1960s took place. By beginning with his belief system, and taking it seriously in determining his actions, this has challenged previous scholarly interpretations of the British nuclear policy-making process that place an emphasis on external pressures, such as departmental thinking, political expediency, and, most of all, the prioritisation of reductions in expenditure over attempts to formulate and adhere to any coherent strategic concept. In doing so, it suggests that these accounts miss a critical element needed to form a clear understanding of British nuclear policy throughout Sandys' period of involvement, and the central tenets of the 1957 White Paper in particular.

In assessing Sandys' individual belief system, and how its intellectual foundations can be traced to his experiences of the Second World War, this book has posited that two beliefs stand out as particularly influential in determining his strategic concept. The first is an appreciation of the role that weapons perceived as 'unconventional' during the Second World War had to play in future warfare, and that this appreciation informed his concept of deterrence, and, therefore, his overall strategic concept. The

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second was a particular belief that ballistic missiles, descended from the German V-2s, would inevitably form the basis of any worthwhile strategic strike capability. This led to him choosing to make such weapons central to the success of the 1957 White Paper, offering a convincing explanation as to why he fought so hard to ensure the success of the Blue Streak programme in the face of strong opposition from the Armed Forces, Cabinet colleagues, and opposing politicians.

Sandys' perception of the nature of the threat of unmanned weapons was conceived even before the V-weapons were unleashed against Britain. His ideas led him to take these novel contraptions seriously even before their threat had materialised, and, having been charged with countering these unknown quantities, he began to consider the secret German projects as merely another problem to be solved, rather than as new weapons of a different order. That he had to confront these new developments with tried-and-tested means (anti-aircraft guns, fighter aircraft, and precision bombing raids) meant that he was simply unable to treat the V-weapons as anything out of the ordinary, as might have been the case for somebody who first witnessed them literally falling out of the sky, and this coldly logical approach to technological development formed the basis of his attitude towards nuclear weapons prior to his return to government. Sandys' view was based upon his approach to new technology as merely another step in a logical progression, and throughout his career he failed to see what practical differences there were between nuclear and non-nuclear weapons when discussing the supposed rules of warfare. Consequently, where he simply sought to balance the use of nuclear weapons against their potential to save lives (and time) in halting the spread of communism, others were horrified at his apparent willingness to move beyond acceptable parameters of force utilisation.

Nuclear weapons were held to lie outside of normal strategic planning because they were only useful for devastating everything within any given area. But the V-2 had been designed specifically to attack enemy populations, and the need for a 'strategic bombardment' weapon had also been cited as the reason for commissioning Blue Streak. This was the fundamental difference between those weapons descended from the V-2, and the manned bomber, which, whilst being more vulnerable to defensive counter-measures, could still boast a level of versatility that the Air Ministry sought to emphasise when Blue Streak was about to be cancelled. Sandys had rapidly accommodated himself to the idea of the ballistic missile coming to dominate strategic planning on the basis that they could

not be defended against, and, in his opinion, they merely promised an ability to devastate the enemy population without having to resort to the kind of extensive economic mobilisation needed to sustain the manned bomber forces used throughout the Second World War. This was why he reported in November 1944 that 'In future the possession of superiority in long-distance rocket artillery may well count for nearly as much as superiority in naval or air power'.[1] The logic of this position, which was later reflected in his repeated references to any war of vital national interests inevitably becoming one in which nuclear weapons would be called upon, was that nuclear weapons were sensible alternatives owing to their ability to force decisions at a reduced cost to the attacker.

This position was carried over into the Ministry of Supply, from which he challenged the strategic priorities laid down by the Chiefs of Staff as part of his Radical Review proposals. Rather than seeing deterrence as an individual layer of defence policy, which was different to, and only led to, actual war, Sandys believed that the Soviet Union could only be deterred by Britain convincingly preparing to fight (and win) the Third World War. In other words, Sandys believed that the British government needed to make serious plans to obliterate Soviet national life before the communists could do the same to Britain. This naturally fed into his belief that the possession of newly-developed thermonuclear weapons, the most effective weapons for such a task, was a pre-requisite for any nation with serious global ambitions, and he found himself advising the government to depend on these weapons a full year before Churchill and other leading policy-makers began to take the idea of developing them seriously. Furthermore, this was a decision he seemed to have reached without agonising over the morality of such weapons, which even Churchill made reference to in March 1955 when, with an air of reluctance, he announced to the Commons that his government had taken the 'grave decision' to manufacture its own.[2]

The British thermonuclear weapons programme was well underway by the time Sandys entered the Ministry of Defence in January 1957, but it was his dependence on his established policy preferences that saw the idea of preparing to fight the Third World War become the intellectual basis for the entirety of Britain's new defence posture. This provides the connection to the second major aspect of his belief system, first presented to the War Cabinet in November 1944, which was the idea that ballistic missiles could not be defended against. When he informed the War Cabinet that there were no 'effective counter-

measures' to the V-2, which could out-perform all existing fighter aircraft and fixed air defence weapons, Sandys immediately recognised the potential value of these weapons in future warfare. By pressing the British government not to allow itself to fall behind in the development of weapons which he believed would go on to 'count for nearly as much as superiority in naval or air power', Sandys was putting the descendants of the V-2 at the heart of his defence thinking a full decade before Britain commissioned its own unmanned strategic bombardment weapons.[3]

Sandys returned to his November 1944 reports as Minister of Supply when devising his solutions to the strategic dilemmas inherent in fighting the Cold War on a seemingly ever-decreasing budget. In what some considered to have been alarming proposals, he followed the logic of his wartime reports, and his June and November memoranda advocated a long-term shift in British defence policy that would lead to it becoming dependent upon the only delivery system capable of striking at the Soviet Union—ballistic missiles descended from the V-2 s that had previously confounded his own defensive efforts. This had the reciprocal effect of convincing Sandys that, if the Soviet Union wished to start the Third World War, Britain could not hope to survive the 'decisive opening phase', and the Soviets had to be discouraged from doing so by Britain building up of a supply of 'long-range guided rockets for use in offensive bombing roles'. It was the 'devastating possibilities' of these, equipped with thermonuclear warheads, that Sandys believed represented the only convincing threat to expansionist Soviet policy-makers.[4] In his second 1953 memorandum he went further than his previous arguments, stating that 'we have no means of defence whatsoever against long-range rocket attack', positing that Britain could no longer protect its people if global war broke out. The only solution was for Britain to manufacture 'long-range weapons of our own, either ballistic rockets of the V-2 type or flying guided missiles', as manned bomber aircraft could not guarantee the necessary amount of striking power to make the Soviet Union think twice about attacking Britain.[5]

Britain's own attempts at constructing 'ballistic rockets of the V-2 type' began properly in mid-1955 when Blue Streak was commissioned, and when Sandys became Minister of Defence he immediately sought to realise his previous recommendations by building British defence policy around what he perceived to be its irresistible offensive qualities. *Defence: Outline of Future Policy* was not the revolutionary document it held itself to be

in terms of doctrine; but, as well as taking the credit for pulling existing trends together for the first time, we have seen the extent to which Sandys' policy preferences not only played a decisive role in its eventual form, but had helped to shape the strategic debates over the previous years. Powell, the co-author of the White Paper, credited him with emphasising the role of ballistic missiles over manned bomber aircraft, and his attempts to maintain the thrust of his favoured prescriptions in the face of opposition from the Air Ministry, the Admiralty, and those involved at Cabinet-level, simply cannot be disregarded in any interpretation of the thought processes behind his involvement in this fundamental re-organisation of Britain's strategic concept.[6] Nor can Sandys' personal involvement be underestimated in relation to Blue Streak, which Groom said remained at the heart of British defence policy 'at least twelve to eighteen months after the missile had been found wanting'.[7] Whether or not this was the case, its continued domination of the defence policy-making process was down to Sandys.

In the first major declaration of his policy preferences as Minister of Defence, Sandys told the Commons in February 1957 that it was 'inconceivable' that Britain could protect itself completely from air attack, and that this basic fact had to inform all attempts to devise sensible defence policies. It was also 'quite clear' to Sandys that this aerial bombardment, should it ever materialise, would come from unmanned weapons rather than manned aircraft, and that devising any solution to this threat in the short-to-medium term was 'absurd'. He alluded to his Second World War service in this debate, informing the Commons of his belief that the future effectiveness of Britain's nuclear capabilities, and therefore the credibility of its deterrent, would 'depend upon the possession by us of these weapons'.[8] From here he sought to make Blue Streak indispensable. In his February submissions to the Cabinet and the Defence Committee he laid out his plans to replace manned bomber aircraft with ballistic missiles, and when preparing his drafts he paid little attention to Macmillan's suggestion that an indigenous missile programme was not essential.[9] The first draft Sandys and Powell produced claimed that ballistic missiles made it 'necessary for all previous defence planning to be revised' and, to the annoyance of the Air Ministry and the Home Office, flatly declared that 'defence has become impossible'.[10] Subsequent offerings did accept revisions to the wording of these passages, but Sandys fought to maintain the spirit of his original policy statements. There was no promise of a British-built ballistic missile in the published White Paper, but it was still the case

that the government 'frankly recognised that there is at present no means of providing adequate protection for the people of this country against the consequences of an attack with nuclear weapons', and he still used the debate on the White Paper to claim that 'We are unquestionably moving towards a time when fighter aircraft will be increasingly replaced by guided missiles and V-bombers by ballistic rockets'.[11]

Having re-orientated British defence policy around his preference for ballistic missiles, Sandys had to carry the policies through to completion. In order to deter the Soviet Union by making actual preparations for the Third World War, he had to ensure that Britain maintained a viable nuclear strike capability under the complete control of the British government, and, although he explored Thor as a temporary stand-in, he was consistently unwilling to allow it to be used as a reason to discontinue the drive towards acquiring truly independent nuclear capabilities. The importance of Britain having full control of its nuclear delivery system was also bound up with Sandys' ideas of what a worthwhile nuclear delivery system looked like. Even if the United States had no say in their deployment, it was no use depending on the V-bombers if they were incapable of doing any significant damage to the Soviet Union. Once the two mainstays of his belief system—the need to be able to devastate the Soviet Union, and the idea that only ballistic missiles were capable of fulfilling this task—came together, Sandys' time as Minister of Defence (and at the Ministry of Aviation) can only be properly understood by giving full consideration to the influence of his personal belief system, and thus the effect of his Second World War experiences, in determining his actions.

The 'negative' aspects of allowing these policy preferences to influence decision-making, the 'cage' referred to in the introductory section, can be seen in Sandys' machinations that sought to derail the Admiralty's Polaris campaign whilst simultaneously making sure that Blue Streak was shielded from potentially hostile criticism and scrutiny. In making the most out of what ambiguity existed over questions relating to propellants, range, cost, and vulnerability, Sandys was successful enough in presenting Blue Streak as the only conceivable means of Britain maintaining its independent nuclear capabilities that it managed to survive various periods of crisis. That Sandys had a slightly different concept of the value of these independent capabilities, choosing instead to stress the utility of Blue Streak as a strategic bombardment weapon, rather than as a bargaining chip in influencing United States and NATO policy, also informed his decision-making.

Had Sandys followed most of the arguments he made in favour of ballistic missiles, he ought to have been convinced by Polaris—if not straight away, then certainly by the time Blue Streak was becoming untenable. The Admiralty had a strong case for Polaris being practically invulnerable, and the fact that Sandys could only respond with misrepresentation (and the improbable notion of the Soviet Union sinking submarines under the polar ice caps), suggests that he did have some sympathy with their arguments. But, however unlikely it was that the Soviet Union could neutralise Polaris at sea, it could never be ruled out completely. This was because Polaris had a fundamental weakness: submarines. That is, the manned component. Land-based ballistic missiles such as Blue Streak were manned at their base, but these bases were to be sited deep underground, secured beneath 750 tons of reinforced concrete. If the Soviet Union wished to counter the manned aspect of Blue Streak, they would have to have destroyed Britain in doing so, making any concerns about its vulnerability irrelevant. If Britain had its bluff called then most of its people would end up dead, and the country would no longer exist as a functioning nation state capable of waging war. This quite literally made Blue Streak an all-or-nothing weapon system, and quite in fitting with Sandys' belief that there was no chance of Britain surviving any exchange of nuclear weapons. It is therefore easy to see why he was unmoved by the government's concerns about its supposed limitations as a 'fire-first' weapon. Even if it could only be fired first, it would do what it had been built to do. On the other hand, provided that there was even the slightest chance of Polaris being countered in the open water (or of Thor being destroyed on its airfields), these alternatives were no better than the obsolete aircraft Blue Streak was meant to replace. Sandys' belief system forced him to conclude that this risk, no matter how small, meant that such systems could not guarantee the effective delivery of British nuclear weapons. In consequence, they were unsuitable as the focal point of his strategic concept.

In perceiving Blue Streak as invulnerable (for all intents and purposes), it logically became the only worthwhile delivery system for Britain in accordance with the policy preferences that had emerged from Sandys' belief system, which had been established during his days in the South East of England struggling to defend Britain from Blue Streak's predecessors, the V-1s and V-2s, that Hitler had unleashed in a desperate attempt to force Britain out of the war. Taking all of this into account, Sandys' involvement in the defence policy-making process across three government departments represents a workable case study in demonstrating that

the role of individual policy-makers merits greater consideration in any discussion of policy-making that uses the idea of strategic cultures and the nuclear belief system as its intellectual basis. By focusing on Duncan Sandys and his personal beliefs, albeit whilst taking external pressures into account, we are able to expand our understanding of British nuclear policy through an increased consideration of individual agency.

Notes

1. Ibid.; War Cabinet "CROSSBOW" Committee: Seventeenth Report by the Chairman, 23 November, 1944; DSND 2/3/6.
2. Churchill said these developments had seen 'mankind placed in a situation both measureless and laden with doom', and framed the decision as having been taken so that Britain was not left behind; Hansard HC vol. 537, cols. 1894–1895 (1 March, 1955).
3. War Cabinet "CROSSBOW" Committee: Seventeenth Report by the Chairman, 23 November, 1944; DSND 2/3/6.
4. 'Review of Defence Expenditure: 15 June, 1953'; DNSD 4/1/1.
5. 'Defence Policy and Expenditure: 20 November, 1953'; DSND 4/1/1.
6. 'Defence Turning Point', p. 30.
7. Groom, *British Thinking About Nuclear Weapons*, p. 310.
8. Hansard HC vol. 564, cols. 1303–1312 (13 February, 1957).
9. 'Review of Defence Plans: Note by the Minister of Defence, 22 February, 1957'; AIR 2/14712; CAB 131/18, D. (57) 2nd Meeting: 27 February, 1957.
10. 'Defence White Paper: Draft B, 13 March, 1957'; ADM 205/114.
11. Sandys' personal copy of *Defence: Outline of Future Policy*; DSND 6/52; Hansard HC vol. 568, col. 1763–1764 (16 April, 1957).

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