

# IPSHU RESEARCH REPORT SERIES

RESEARCH REPORT No. 2

AT THE MERCY OF NUCLEAR WEAPONS:  
ORIGIN OF U.S. NUCLEAR POLICY, 1939-1945

Seiitsu TACHIBANA

Hosei University



THE INSTITUTE FOR PEACE SCIENCE,  
HIROSHIMA UNIVERSITY

Institute for Peace Science, Hiroshima University

1-1-89 Higashisendamachi, Hiroshima 730 Japan

RESEARCH REPORT No.2

AT THE MERCY OF NUCLEAR WEAPONS:  
ORIGIN OF U.S. NUCLEAR POLICY, 1939–1945

Seiitsu TACHIBANA

Hosei University

The theme of this essay was presented by the author at a "Symposium on Historical Processes Leading to the Atomic Bombing," held on March 18, 1978, at the Science Council of Japan, under the joint auspices of the National Committee on Peace Research in the Science Council of Japan, the Japan National Committee on the History of World War II, and the Historical Science Society of Japan. For valuable assistance and counsel, acknowledgement is gratefully extended to: Herbert BIX, Andrew and Tomoko HUGHES, ISHIHARA Yasunori, KUBOTA Aiko, KUGAI Saburo, MATSUO Keiko, Stephen SALAFF, SHINKAWA Kenzaburo, YAMAGIWA Akira, and YUI Daizaburo.

## CONTENTS

I. Prologue . . . . .	1
II. Anglo-American Collaboration in Atomic Bomb Development . . . . .	6
II-1. Initial Interchange . . . . .	6
II-2. Conflicts and Collaboration . . . . .	11
II-3. The Quebec Agreement . . . . .	20
II-4. The Combined Development Trust . . . . .	22
II-5. The Roosevelt-Churchill "Aide-Memoire" . . . . .	24
II-6. French Scientists . . . . .	28
III . The Raw Materials Strategy and Intelligence Operations Overseas . . . . .	30
III-1. The Raw Materials Strategy . . . . .	30
III-2. Intelligence Operations Overseas . . . . .	34
IV. The Bomb as Instrument of Policy . . . . .	35
IV-1. The Bomb Quid Pro Quo . . . . .	35
IV-2. Measures for Atomic Monopoly . . . . .	40
IV-3. The Bomb as Reality . . . . .	47
V . Epilogue . . . . .	49
Notes . . . . .	53

## I. PROLOGUE

For at least a week or so after the defeat of Japanese militarism in mid-August 1945, the U.S. had no atomic bombs in its nuclear arsenal.<sup>(1)</sup> Infants born in that year, now in their thirties, live in a world with nuclear arsenals of overkill capacity to wipe out many times over the total life of the world's people. The implications of this are too vast to be treated here, but a modest attempt may be made by tracing the origin of U.S. nuclear policy.

The secret project of the wartime American Government for development of the atomic bomb, or the Manhattan Project, as it later came to be called, was initiated in October 1939 by President Franklin D. Roosevelt, allegedly to ensure that "the Nazis don't blow us up,"<sup>(2)</sup> but it was not terminated even on the collapse of the Third Reich. Only one British physicist (of Polish origin) is known to have left the Manhattan Project at that time, believing his mission to have been completed.<sup>(3)</sup> The collapse of the Nazis on May 8, 1945, led to the staff of the secret bomb-design laboratory at Los Alamos being required to work even harder than before to complete the bomb in time for it to be used against Japan.<sup>(4)</sup>

President Harry S. Truman's statement that the atomic bombing was necessary to "shorten the agony of war...to save the lives of thousands and thousands of young Americans,"<sup>(5)</sup>

and the later assertion by Henry L. Stimson, Secretary of War at the time, that the early ending of the war by the atomic bombing saved the greater destruction of Japanese life and property as well, (6) could possibly have been accepted at face value if the U.S. Government had taken drastic measures for the abolition of nuclear weapons immediately after the war, when the Nazis and the Japanese militarists, the sworn enemies, had been defeated, and the originally claimed justification for the development of atomic bombs had lost its rationale.

Working as a consultant on the Manhattan Project, the Danish physicist, Niels Bohr, on various occasions in 1944 had emphatically urged both President Roosevelt and Prime Minister Winston Churchill that, during wartime, they enter into an agreement with the Soviets for postwar control over atomic weapons. While this approach was ultimately rejected by the two leaders, (7) and whereas such a plan, even if accepted, could have degenerated into an instrument of big power politics unless accompanied by the outlawing of the very possession of nuclear weapons, the Truman administration in July 1945 also turned a deaf ear to a recommendation made by a group of scientists at the Manhattan Engineer District's Metallurgical Laboratory, who had concluded:

"In the absence of an international authority which would make all resort to force in international conflicts impossible,

nations could still be diverted from a path which must lead to total mutual destruction, by a specific international agreement barring a nuclear armament race." (8)

Why were these proposals rejected, or not even considered? The answer to this question can be found in the processes of the evolution of the wartime Manhattan Project, for the decisions made by a few top leaders of the two administrations and the measures taken by the Manhattan Engineer District offer clues by which to identify the path they paved, and why they rejected such proposals. Three salient factors seem to offer the reasons, which together constitute the major factors in determining U.S. nuclear policy.

First, the wartime collaboration in the development of the atomic bomb between the U.S. and Britain, senior and junior partners in the secret atomic alliance, experienced political vicissitudes of harmonies and conflicts in their respective national interests, especially in the wider perspectives of a postwar world. The other side of the coin was the consistent exclusion from their joint project of the Soviet Union, the other partner of the wartime "grand alliance," to the point of blacking out even the simple knowledge of the existence of such a project. France was also barred from any claims to participation.

Second, the politics of the atomic bomb project bears the marked evidence of the wartime raw materials strategy and overseas intelligence operations. The former was pursued

by the British-American Governments in the clandestine cornering of uranium ores, and even of thorium supplies, with the aim of depriving the Soviet Union of any chance to obtain materials for its own possible atomic development in any areas of the world other than its own territory. The intelligence operations were directed against the Nazis, concurrently designed to ensure that German nuclear resources fall into neither the hands of the Soviet Union nor of France. Furthermore, the strategy and operations are of contemporary significance. They reveal the extent to which the U.S. and British Governments actually achieved or even sought to achieve their aims, by wielding power over areas and countries rich in uranium deposits and monazite sands, using the various channels available under the then existing multi-layered structures of domination of colonies and dependencies, and with a view to the contribution the actual steps taken would make in orientating the subsequent development of atomic energy in different countries.

Then, the same irresistible driving force--economic, political, military, and ideological--which had enabled the U.S. to emerge as a dominant world power during and after World War II, seems to have dictated the prime considerations in the formulation of U.S. nuclear policy. Roosevelt left undone the major task of translating the commitments he had already made and the works he had authorized into an

official nuclear policy. But the logic of atomic bomb supremacy inherent in the Manhattan Project began to assert itself as the bomb came closer to being a reality, with the policy makers beginning to see the bomb as an increasingly assured element in the conduct of politics in the world arena. All that Truman could do at best, within the limits set by his unprepared assumption of the presidency, was to follow the course already set by his predecessor, thereby adding to the atomic legacy. The overriding factor in policy considerations was for the U.S. to retain a monopoly of atomic weapons for as long as possible, and, in anticipation of the time when such a position could no longer be maintained, to get as far ahead as possible of other potential nuclear powers. By far the most pressing task for the new president was therefore to complete the bomb as a real weapon that could be counted on as a sure instrument of policy. This required that it be tested not only in its mechanics but also in its efficiency when used against living targets.<sup>(9)</sup> This would mean that the bomb must make its debut on the world stage, thus fulfilling a significant political role by its performance, while at the same time giving rise to great moral and juridical implications.

Before any nuclear policy could be officially formulated, deeds had spoken. In other words, postwar U.S. nuclear policy was to be formed only as justification and ratifica-



tion of the historical heritage of the wartime Manhattan Project. What we attempt in this essay is an analysis of the three factors set out above.<sup>(10)</sup>

## II. ANGLO-AMERICAN COLLABORATION IN ATOMIC BOMB DEVELOPMENT

### II-1. INITIAL INTERCHANGE

Anglo-American collaboration in the development of the atomic bomb began with a July 8, 1940, Aide-memoire of the British Ambassador to Washington, in which Lord Lothian proposed to President Roosevelt an immediate, general interchange of secret technical information, specifically on the technology of ultra short wave radio.<sup>(11)</sup> Under the resulting agreement, a visiting British mission in the autumn of that year arranged for a partial exchange of information with the American National Defense Research Committee (NDRC).<sup>(12)</sup> In April, Britain inaugurated the "Maud Committee" (Military Application of Uranium Disintegration) and, according to the official history, moved several months ahead of the U.S. in both theory and research.<sup>(13)</sup> In November, the papers and minutes of the Maud Committee reached the Committee on Uranium, their American counterpart, then under the NDRC.<sup>(14)</sup> An NDRC delegation, led by James B. Conant, president of Harvard University, visited London during March and April 1941, when

the machinery of collaboration was completed and exchange scientific offices were set up in the respective capitals. Lend-Lease, a virtual American commitment to the war against Germany, became law, creating an atmosphere favorable to the Conant mission in London, but the British were unwilling to turn over to the Americans all the findings of their basic nuclear research. (15)

The formal exchange of information began only after Vannevar Bush, president of the Carnegie Institution and concurrently chairman of NDRC, succeeded in persuading Roosevelt to set up the Office of Scientific Research and Development (OSRD) by Executive Order of June 28, 1941. Under the directorship of Bush, the OSRD incorporated the NDRC in its apparatus, and was charged with the task of mobilizing the scientific resources and applying the results of research to national defense, while at the same time serving "as the central liaison office" for the conduct of scientific research for other countries. (16)

The Maud Committee report which Bush and Conant received in July from the NDRC's London offices was one of the two factors, along with an improved prospect achieved at home for the military use of plutonium, which convinced these science administrators that some direct use could be made of atomic energy in the ongoing war. At the beginning of August 1941, Bush and Conant proposed to Charles Darwin,

head of the British Central Scientific Office in Washington the setting up of a small, joint technical committee with a single council to advise the two Governments on policy.<sup>(17)</sup>

In August 1941, the Atlantic Charter shed new light on the postwar world as envisioned by Roosevelt and Churchill. At the White House on October 9, Bush sought Presidential support, on the basis of the Maud report, for an advanced research program, and in keeping with the Anglo-American cooperation foreseen under the Atlantic Triangle, Roosevelt suggested that joint engineering work on an atomic bomb might be necessary with Britain, on Canadian soil. The President emphasized tight secrecy, and restricted policy considerations to himself, Henry Wallace (Vice-President), Bush, Conant, Henry L. Stimson (Secretary of War), and George C. Marshall (Army Chief of Staff), who were assumed to constitute the "Top Policy Group," over all such administrative organs as OSRD.<sup>(18)</sup>

In an October letter drafted by Bush, Roosevelt suggested to Churchill that they exchange views "in order that any extended efforts may be coordinated or even jointly conducted."<sup>(19)</sup> Churchill was slow to reply; he replied after Pearl Harbor, with a vague general assurance of Britain's "readiness to collaborate with the United States Administration in this matter."<sup>(20)</sup>

The Scientific Advisory Committee of the British Cabinet

had earlier recommended that a decision on the location of the full-scale uranium separation plant was not urgent, that is, under the joint efforts of Britain, Canada, and the U.S.<sup>(21)</sup> P.M.S. Blackett had issued a minority report favoring the construction of such a plant in the U.S.,<sup>(22)</sup> but the majority had feared that the fusion of efforts could make the U.S. the sole nuclear power, and they favored building the plant in England or Canada, to ensure Britain's independence. At the end of November 1941, Sir John Anderson, chairman of the newly formed Tube Alloys [Britain's new code name for the atomic bomb] Consultative Council, informed Frederick L. Hovde, U.S. scientific liaison officer in London, that His Majesty's Government was anxious to collaborate with the U.S., but implied reluctance on the grounds of Britain's anxiety over the possible "leakage" of information to the enemy by the Americans.<sup>(23)</sup>

The British thus missed at least two appropriate opportunities for a joint Anglo-American project. They were too sure of their initial lead over the Americans in uranium research to respond positively and promptly to the Bush-Conant feelers about a joint project.

Early in 1942, some British scientists visiting the U.S. found that while Britain was pursuing only one method of production of fissile material, viz., gaseous diffusion, the Americans were working on three possible methods, electro-

magnetic, gas centrifuge, and gaseous diffusion, in addition to exploring the possibilities of producing plutonium.

American resources put into the project were vastly greater than the British. By the late spring of 1942, the U.S. had drawn level and was surpassing the British. (24)

In June, further discussions took place between Roosevelt and Churchill on collaboration in the bomb project. A research plant for uranium isotope separation was to be built not in the British Isles but in the U.S. No letters were exchanged on this agreement, however, during the second U.S.-U.K. war council in Washington. (25)

The Tube Alloys Consultative Council persisted in the vain hope of maintaining an independent project, but in July 1942, Britain's inability to bear the enormous cost of building a full-scale plant under wartime conditions had to be admitted, and it was decided to "throw in their lot with the Americans." (26)

In June 1942, the American project was at the transition stage, moving from research to engineering. The Army started what was called the "DSM Project" (Development of Substitute Materials), to take over process development, engineering design, materials procurement, and industrial site selection, and Bush appointed an "S-1 [American code name for atomic bomb] Executive Committee," of which Conant was chairman, to supervise all OSRD work. In August the Army opened an

administrative office in New York, with the title: "Manhattan Engineer District."(27)

In September, the Top Policy Group set up a "Military Policy Committee" to undertake planning on materials, research, development, and production, plus strategy and tactics. Responsible for the Top Policy Group, the Military Policy Committee included top-level representatives from the OSRD, the Army and the Navy, with Bush chairman and Conant his alternate. Brig. Gen. Leslie R. Groves was placed in command of the DSM Project on September 23, and sat with the Military Policy Committee.(28)

## II-2. CONFLICTS AND COLLABORATION

Early in August 1942, John Anderson, in accord with decisions made in late July by the Tube Alloys Consultative Council, informed Bush that the construction of a gaseous diffusion plant in Britain was out of the question because of the difficulties of wartime production, and in the light of possible German air raids against Britain. Sir John proposed that the Americans consider the possibilities of setting up a British gas diffusion pilot plant in the U.S., adding British members to Conant's S-1 Executive Committee, setting up a British Tube Alloys liaison office in the U.S. and transferring to Canada the French scientific team under

Hans von Halban, then studying heavy water in Britain.<sup>(29)</sup>

Having already done ten times as much work as Britain, the Americans had lost interest in increasing bilateral collaboration. The British certainly had the base for a take-off into full technological development, but "it was only a base."<sup>(30)</sup> Differences in the ability to mobilize the necessary resources and in the progress achieved had widened the gap between those responsible for the projects on the two sides of the Atlantic.

First, in diffusion engineering and in a heavy water pile, the Americans were now unwilling to acknowledge a British role in any further development of the gas centrifuge and electro-magnetic methods of uranium separation, and of the graphite pile. Then too, the Americans had introduced tighter security measures, extending even to the compartmentalising of Manhattan Project scientists; and accordingly liaison connections with the British were restricted. Differences were conspicuous, above all, in the principles governing interchanges between the science administrators of the two projects. The American position was that information could be given only on a "need-to-know" basis, which, in practice, meant only what the British were already working on and could make use of during World War II. The sole reason Washington gave for restriction was security. The British, however, demanded full access to all large-scale

developments in the U.S., asserting that the progress in any given method for the production of fissile materials would directly affect other possible methods. (31)

Behind all these troubles was a conflict of interests between the authorities of the two nations over the possible implications the wartime progress of military science and technology might have on postwar affairs. In fact, the British insisted that they were entitled to have full scientific-technological know-how to manufacture the bomb, which might be "the main really effective police weapon" to keep peace in Europe on their terms after the war. (32)

The September 29, 1942 "Anglo-Soviet Agreement on the Exchange of New Weapons" that came to Stimson's attention for the first time in December, stiffened the American resistance to interchanges. Roosevelt concurred in the opinion of the Secretary of War, that it would not be wise to enter into a similar agreement with the Soviets. (33)

Then, on December 28, the President accepted Bush's recommendation for restricting interchanges with the British.

The new American policy included: (1) no information on the electro-magnetic method or on the bomb design work at Los Alamos; (2) the likely continuation of interchanges between the British and the American companies engaged in the design and construction of gaseous diffusion plants should not go beyond an exchange of scientific information on the manu-



facture of plutonium and heavy water. So negotiations between the Manhattan Project leaders and the Tube Alloys authorities came to a total deadlock.<sup>(34)</sup>

In a communication to the White House on March 31, 1943, Bush for the first time expressed a suspicion that the British might be aiming at postwar commercial interests in the development of nuclear power plants.<sup>(35)</sup> More than Bush's suspicion, which, according to the official history,<sup>(36)</sup> was groundless, the British seemed to have a stronger motive for fuller atomic exchanges on the grounds that while immediate, independent development was considered impossible, the U.K. could not "afford after the war to face the future without this (atomic) weapon, and rely entirely on America should Russia or some other power develop it."<sup>(37)</sup> The desperate need for the British to institute full interchanges was behind the idea of the "independent deterrent...already well entrenched."<sup>(38)</sup> Hence, instead of going alone, the U.K. chose to try to go along with the U.S. as closely as possible, at least until such time as it could mount an independent A-bomb effort.

With the surrender of the German Sixth Army to the Soviets at Stalingrad as the turning point, the military balance in the European theater shifted decisively in favor of the Allies. Judging that Britain's military predicament had ended in Europe, Churchill was in a position in January

1943 at Casablanca to agree with Roosevelt on an "unconditional surrender" formula to present to the Axis Powers. Post-Nazi considerations began to assert themselves increasingly in the minds of the two leaders.

In these circumstances, early in 1943 Churchill launched a tenacious campaign to break through the U.S. secrecy impasse, to win an advantage for Britain. At Casablanca and on many later occasions through Harry Hopkins, and on his own visit to the White House in May, the British Prime Minister pressed the President, directly and indirectly, in both straightforward and conciliatory terms, for a resumption of full interchanges.<sup>(39)</sup>

In July, when Stimson was pressing Churchill in London for an early execution of cross-Channel second front operations and Bush was attending meetings of the War Cabinet's anti-U-boat Committee, in talks with Churchill, John Anderson and Lord Cherwell, Churchill's scientific advisor on Tube Alloys, the Americans still defended their position of restricted interchanges.<sup>(40)</sup> Nevertheless, Roosevelt had made a decision in Washington in favor of the British demand.

Hopkins on July 20 wrote the President: "I think you made a firm commitment to Churchill in regard to this [full interchange] when he was here [probably on May 25] and there is nothing to do but go through with it."<sup>(41)</sup>

Roosevelt wrote to Bush (who was then in London) at his

Washington office, that he would "renew, in an inclusive manner, the full exchange of information" with the British.<sup>(42)</sup>

Churchill's tactics of bypassing the Manhattan Project top bureaucrats and persuading Roosevelt through his most dependable aide seemed to have achieved a satisfactory result for Britain. Roosevelt distinguished between the diplomatic and the scientific-technological aspects of the bomb, and split his aides accordingly. That the decision to resume full Anglo-American interchanges was made without any consultation with the top officials of the Manhattan Project indicates how highly political the decision was.<sup>(43)</sup>

At the time when Roosevelt and Stimson, against Churchill's adamant opposition, were moving toward earlier cross-Channel operations, in which Washington wanted to place an American general in command of the British troops, the prolongation of the Anglo-American conflict over the atomic bomb partnership could have threatened relations within the Atlantic alliance against the Axis powers.<sup>(44)</sup> Or, at a time when U.S. and U.K. relations with the Soviet Union were deteriorating,<sup>(45)</sup> Roosevelt's decision to resume full interchanges with Britain might be taken as one indication of the President's change from a postwar blueprint of "four policemen"; viz. U.S., Britain, China, and the Soviet Union, to a position of only the first two as policemen.<sup>(46)</sup> Perhaps both views were relevant to Roosevelt's decision,

but seen in the light of Roosevelt's actual proposal made to Stalin at Tehran on the concept of "four policemen," it seems more logical to conclude that this concept was conceived as a broader world-wide policing framework, along with the "two policemen" idea of the U.S. and Britain as the central core within that broader framework. In other words, the two ideas, "four policemen" and "two policemen," together formed but one concept in Roosevelt's plan for the postwar world, with the U.S., needless to say, having the overriding leadership.

In examining the closer Anglo-American relations in this specific field of atomic bomb development at this particular point, the Soviet victory at Stalingrad seems to provide a decisive clue for the better understanding of relations between the U.S. and U.K. on one hand, and the U.S.-U.K. bloc and the U.S.S.R., on the other. The "grand alliance" of the three powers was based on exigencies created by the Nazis. As this threat began to fade, the question of Soviet Communism and the possible extension of its influence over Europe began to haunt the world envisioned by the leaders of both the U.S. and U.K. as coming in the wake of defeat of the Nazis. The urgent need of the Soviets to have the U.S. and U.K. open the second front in Europe had been postponed, due mainly to Churchill's strategy of first securing those areas that were likely to affect the fate

of the British empire, especially in North Africa and the Mediterranean.

The Soviet ambassadors to both Washington and London had been called back to Moscow during the spring and summer of 1943. Even a Russo-American summit meeting, which Roosevelt had instructed Joseph E. Davies to arrange with Stalin for the summer of that year,<sup>(47)</sup> had to be postponed indefinitely, due, in the main, to the deteriorating U.S.-Soviet relations over the second front issue. (Churchill was opposed to any such meetings taking place without him.) Amidst the alarming deterioration of relations between Washington and Moscow, the formation of the "Free Germany" movement in Moscow and elsewhere became a growing concern to Washington, along with rumors which spread in some capitals of Northern Europe, about "a separate Russo-German Armistice."<sup>(48)</sup> The fact was, however, that in July the Red Army launched the longest, most sustained military offensives against the Nazis. American leaders then became worried about the postwar political consequences that might result in Europe if action by the Anglo-Americans should lag behind the Soviet military offensives there.<sup>(49)</sup> The Americans had almost decided to carry out the cross-Channel operation in 1944, and the May 1943 Washington conference set the 1st of May 1944 as the target date. Meanwhile, a compromise measure, on which the U.S. was able to win British approval

in the August 1943 Quebec conference, was a military operation plan called "Rankin," designed to cope with possible Soviet military superiority in Europe that might result from the delay of Anglo-American forces in opening the second front.

Any political arrangements that might emerge out of the war would have to reflect the ultimate outcome. While the ongoing military operations continued, with his staff left to work out solutions to the extremely conflicting economic and political problems that existed, especially between the U.S. and the U.K., Roosevelt seemed to have set about tightening the relations of the two nations to be in immediate readiness to meet any possible Soviet challenge in the postwar world. In this context, the atomic alliance Churchill had so earnestly asked for could well be considered one of the most powerful instruments at Roosevelt's disposal in making his British ally more pliable, and at the same time in consolidating their still tacit, covert alliance in dealing with the Soviet Union. Nevertheless, the atomic alliance of the two by no means precluded either Roosevelt or Churchill from following their respective strategies of pragmatic cooperation with Moscow wherever such was deemed necessary, as later events in Tehran and Yalta were to testify.<sup>(50)</sup>

But the prime factor that seems to provide the underlying motive for Roosevelt's decision for a secret, Anglo-

American atomic alliance, was the impending Soviet threat in Europe, as he perceived it. His decision appears to be much more significant than is generally assessed, for it clearly set the overall political framework, beyond which no nuclear policy could be formulated.

### II-3. THE QUEBEC AGREEMENT

Signed at Quebec by Roosevelt and Churchill on August 19, 1943, this was entitled, "Articles of Agreement governing collaboration between the authorities of the U.S.A. and the U.K. in the matter of Tube Alloys" (the Quebec Agreement).<sup>(51)</sup> Affirming that the earliest possible fruition of the bomb project was "vital to our common safety in the present war," the two leaders agreed that their countries would not use the bomb against each other, that they would not use it against third parties without each other's consent, and that neither would pass on any information about the bomb to third parties except by mutual agreement. In view of the far heavier burden of production falling upon the U.S. as the result of a wise division of the war effort, postwar advantages of an industrial or commercial character should be dealt with "as between the United States and Great Britain on terms to be specified by the President of the United States to the Prime Minister

of Great Britain." Churchill expressly disclaimed "any interest in these industrial and commercial aspects beyond what may be considered by the President of the United States to be fair and just and in harmony with the economic welfare of the world." To ensure full and effective collaboration between the two countries in completing the bomb, a Combined Policy Committee (CPC) was set up in Washington, with three American, two British and one Canadian member, whose function was to determine the program of work in the two countries, keep all sections of the project under constant review, allocate materials, apparatus and plant that were in limited supply, and settle questions in dispute.<sup>(52)</sup> Regulating interchanges in the fields of design, construction and operation of large-scale plants were subsequently controversial "ad hoc arrangements." It was in December 1943 when such working arrangements were agreed upon at long last by the CPC,<sup>(53)</sup> followed by the placing of fifty or so British scientists and engineers in the Manhattan Project.<sup>(54)</sup>

Nevertheless, the Combined Policy Committee met "only eight times" from the time of its inauguration until the bombing of Japan's two cities. Contrary to British desire, the committee did not exercise "general oversight" of the Manhattan Project, for the American members would have accepted no substantial modifications of the policy they



had set. What the committee could take up at best were matters well below highest level, "in which a combined policy was possible." Draft policy decisions were usually prepared by the American Military Policy Committee, which used to meet prior to the combined body. This was one of the "facts of life" the British members were soon to learn and had to accept if they were to start their own postwar project. The harvest thus reaped by the British included more knowledge of gaseous diffusion technology, nearly complete knowledge of electro-magnetic separation and bomb manufacturing know-how. (55)

#### II-4. COMBINED DEVELOPMENT TRUST

As the bomb project proceeded, the need for uranium ore became a major concern of the Manhattan Engineer District. In May 1943, Groves set himself the task of estimating global uranium deposits, and on June 24, the Military Policy Committee approved Groves's plan to secure control of all possible uranium resources. In a report sent to Roosevelt, who was conferring with Churchill in Quebec in August, Groves said that while immediate demand for uranium could be met from stocks on hand or under contract in the U.S. and Canada, the possible drain on North America in postwar years would make it necessary to control the major

source of supply in the Belgian Congo.<sup>(56)</sup> Groves then unsuccessfully attempted to persuade the Union Miniere du Haut Katanga to re-open the flooded Shinkolbwe Mine and sell the total product to the U.S. Aware that Britain wielded a major influence on Belgian policy, and controlled some thirty per cent of the Union Miniere's stock, the Military Policy Committee decided to make a joint approach with Britain to the Belgian Government-in-Exile. The Combined Policy Committee in December 1943 agreed to undertake the necessary preparations for this action.

In a report to the President dated February 4, 1944, Groves informed Roosevelt of the Military Policy Committee's recommendation for the U.S. and Britain to secure long-term exclusive rights over the uranium ores in the Belgian Congo, while at the same time striving to corner other sources. When Bush took up the problem with the President on February 15, Roosevelt was so interested that he asked for a map of the Congo with the uranium mines marked. The President approved the ore project as recommended by the Military Policy Committee, after which the recommendation was ratified by the Combined Policy Committee.<sup>(57)</sup>

In February, the Committee adopted a draft agreement for reference to the governments of the U.S., the U.K. and Canada. On June 13, this was formalized as the "Agreement and Declaration of Trust," signed by Roosevelt and Churchill.

A Combined Development Trust, made up of six representatives of the U.S., the U.K., and Canada, was set up in Washington under the Combined Policy Committee.<sup>(58)</sup>

Canada was omitted as a signatory, as in the case of the Quebec Agreement.<sup>(59)</sup>

The Combined Development Trust aimed at monopoly acquisition of fissionable materials by exerting "its best endeavours to gain control of and develop the production of uranium and thorium supplies situated in certain areas other than the areas under the jurisdiction of the two Governments, and of the Governments of the Dominions and of India and of Burma..." Thorium was now added to uranium, making the global strategic task of the trust even vaster.<sup>(60)</sup> This raw materials strategy will be discussed in greater detail in chapter III.

## II-5. THE ROOSEVELT-CHURCHILL "AIDE-MEMOIRE"

The most important political document in terms not only of Anglo-American collaboration, but also as regards overall global strategy involved in the development of atomic bombs, is the "Aide-Memoire" initiated by Roosevelt and Churchill at Hyde Park, New York, on September 18, 1944, during talks they held following the Second Quebec Conference.<sup>(61)</sup>

"When a 'bomb' is finally available," it said, "it might perhaps, after mature consideration, be used against the Japanese, who should be warned that this bombardment will be repeated until their surrender." Herein is revealed an important assumption, which remained implicit right to this point. Although the "Aide-Memoire" can by no means be regarded as a deliberate, final decision, Churchill was later to admit<sup>(62)</sup> that the argument for the use of atomic bombs against Japan was never countered. It should be recalled in this connection that as early as May (probably on the 5th) 1943 the Military Policy Committee had concluded that the Japanese fleet concentration at Truk would be the best target for the first bomb, and in June Roosevelt and Bush talked about "the possible use [of the atomic bomb] against Japan, or the Japanese fleet,"<sup>(63)</sup> After the Tehren conference in November 1943, when Stalin agreed to eventual Soviet participation in the war against Japan, the American military planners worked out an overall plan for the defeat of Japan, confirming that the main war efforts against Japan would be made in the Pacific.<sup>(64)</sup> And at the Second Quebec conference, Roosevelt and Churchill approved a revised overall plan for the defeat of Japan, with the intention of invading the Japanese home islands. It was estimated that Japan's defeat would come within 18 months after the defeat of Germany.<sup>(65)</sup>

When Roosevelt asked Bush at the White House on September 22, 1943, whether the bomb should be used against the

Japanese or be tested in the U.S. and used as a threat, Roosevelt clearly had in mind the potential diplomatic value of atomic bombs. The fact that Roosevelt raised this question, though not necessarily expecting any definite answer from his science administrator, who had not been consulted on the subject, seems to confirm that the diplomatic value of the bomb was the crux of the thinking of both the President and the Prime Minister. (66)

Indeed, they flatly rejected Niels Bohr's suggestion that "the world [Bohr meant the Soviet Union] should be informed regarding tube alloys, with a view to an international agreement regarding its control and use." The Danish physicist had vainly tried to convince them that the U.S. and the U.K. should try for an agreement with the Soviets on postwar control of atomic energy, after informing Stalin about the development of atomic bombs, but without divulging any technological details. (67) Roosevelt and Churchill went so far as "to ensure that he [Bohr] is responsible for no leakage of information particularly to the Russians." (68) The concern of the two leaders here was their Soviet "ally."

Roosevelt and Churchill reconfirmed furthermore that the existing Anglo-American collaboration "in developing tube alloys for military and commercial purposes should continue after the defeat of Japan unless and until termi-

nated by joint agreement."

Roosevelt perhaps went a little further than his politics with Churchill would have mandated him to do. At Quebec, the two leaders had found the way to consideration of the scope and scale of Lend-Lease in Britain's Stage II, by initialing an agreement.<sup>(69)</sup> By this the Americans aimed to curb the British drive toward recovery of its export markets, in exchange for some wider application of America's Lend-Lease aid to Britain during Stage II. Planning for the postwar world was at its height. The United Nations Conference at Bretton Woods, New Hampshire, in July, had adopted the Articles of Agreement of the International Monetary Fund and the International Bank for Reconstruction and Development, and the Dumbarton Oaks Conference was drawing up a blueprint of the world political organization. Following up Normandy, Anglo-American forces were advancing in Europe and elsewhere, as was also the Red Army.

Even in the light of these broader developments, Roosevelt's commitment to Churchill went far beyond any conception of his advisors on the atomic bomb, who would certainly have opposed making such a full commitment to Churchill, had they known of it. Roosevelt went (or Churchill pushed him) further also than the considerable leeway the President had enjoyed at home. Full, indefinite collaboration with Britain was clearly at variance with the consistent American

drive to hold a nuclear monopoly, as suggested by previous events. Until it was tested in July and actually used in August 1945, the atomic bomb was still an uncertain factor, but the commitment Roosevelt made was actually in anticipation of the atomic diplomacy to follow the completion of the bomb, rather than to an apparently even firmer atomic alliance with Britain as America's junior partner; though, in the inexorable logic of the Quebec Agreement, it was obviously to deal with the other partner of the "grand alliance" in a world under planning and in the making.

## II-6. FRENCH SCIENTISTS

Ever since Joliot-Curie had sent Hans von Halban and L. Kowarski over to England from Nazi-occupied Paris in 1940 with their cans of heavy water, Britain and Canada owed to them their approaches made to the slow neutron pile. Five French scientists were at Montreal in the British project in Canada at various times: four of them from the beginning, early in 1943, and one from the summer of 1944.<sup>(70)</sup> In addition to specific contrasts with these scientists, Britain had "certain wider agreements or undertakings" with them,<sup>(71)</sup> including patents agreements with Halban and Kowarski,<sup>(72)</sup> the oral assurance given by Sir John Anderson to Jules Gueron

for postwar French rights to knowledge and arrangements about the bomb project, and Britain's general hope for postwar cooperation with France.<sup>(73)</sup> In contrast to their explicit and specific undertakings to the Americans, the British commitments to the French were rather vague and pragmatic.

Problems arose in October 1944 when Halban asked for permission to visit London, which would certainly entail a trip beyond to Paris. The temporary home-coming trip to France made the same month by Guéron had displeased Groves and the Manhattan District officials, who were furious with the British, on the ground that their liberality with the French scientists constituted a violation of the Quebec Agreement on strictures against third party communication.<sup>(74)</sup>

The problem of the French scientists was political, first and foremost. There was grave danger, John Anderson wrote to the American authorities, that the French, "through Mr. Joliot or possibly through de Gaulle, instigated by Joliot," might press for immediate participation in the bomb project.<sup>(75)</sup> The American position on the matter was that "it was impossible to let the French into the matter," as had already been reconfirmed between Roosevelt and Stimson on December 30, 1944,<sup>(76)</sup> and the Secretary of War rejected any offer of assurance that would commit the U.S. Government itself to a nuclear role for France.<sup>(77)</sup>



In the Yalta talks with Roosevelt about France, Churchill was "shocked...when the President in a casual manner spoke of revealing the secret to Stalin on the grounds that de Gaulle, if he heard of it, would certainly double-cross us with Russia." The Prime Minister dissuaded the President from so doing. For "even six months will make a difference," Churchill thought, "should it come to a show-down with Russia, or indeed with de Gaulle."<sup>(78)</sup> Pursuit of the secret Anglo-American monopoly of atomic bombs remained unaltered, at least till the time of Roosevelt's death. Both Roosevelt and Churchill knew that they could not keep the Anglo-American atomic alliance forever secret, but their policy was to go ahead with monopolistic development, testing, and deployment, leaving the Soviets and the French as far behind as possible.

### III. THE RAW MATERIALS STRATEGY AND INTELLIGENCE OPERATIONS OVERSEAS

#### III-1. THE RAW MATERIALS STRATEGY

The clandestine raw materials operations carried out by the Combined Development Trust is more important than it is

generally understood to have been, representing, as it did, the material basis of the drives of the Anglo-American atomic partnership toward consolidating its control in this field.<sup>(79)</sup> As revealed by the events that led to the establishment of the Trust, the raw materials strategy had dual aims: (1) as far as possible to conserve uranium "supplies in North America," particularly those in the U.S.<sup>(80)</sup> by securing stable supplies overseas; and (2) to deny to other countries, the Soviet Union in particular, access to fissionable materials outside their own territory, should they embark on the development of atomic energy.

The first of such operations resulted in the successful cornering of uranium ores in the Belgian Congo, then considered to be the largest deposits of the highest grade in the world.<sup>(81)</sup> Involved in these arrangements was a four-layer structure of power relations, with the U.S., itself rich in uranium deposits, along with Britain, its junior partner which had substantial supplies in Canada, controlling the independent scientific development of Belgium, the supplier, which in turn sold out the assets of the people of its colony, the Congo.

As the experiments in the spring of 1944 had shown the possibility of multiplying uranium-233 in breeder piles, thorium was then considered by Washington likely to become a major raw material for atomic energy within a matter of a

few years. The Combined Development Trust therefore took measures to secure control of the important deposits<sup>(82)</sup> in Brazil,<sup>(83)</sup> in the Indian State of Travancore,<sup>(84)</sup> and in the Dutch East Indies,<sup>(85)</sup> even though there was a considerable dispersal of thorium, and therefore difficult to corner.

Sweden was known to geologists as having "deposits of kölm," a hardened asphalt-like substance used for fuel, and oil shale.<sup>(86)</sup> An on-site investigation made by a British official geologist had established an estimated amount of uranium oxide in Sweden to be no less than 80,000 tons.<sup>(87)</sup> In August 1945, the American representative sought Swedish Government concurrence in the measures designed: (1) effectively to control uranium bearing materials in Sweden for years; (2) to prevent export of such materials "except with the consent of the two Governments," U.S. and U.K.; and (3) to give the two Governments the "right of first refusal on the uranium content of the Swedish supply" of such materials.<sup>(88)</sup> However, negotiations with the Swedish Government proved to be a complete failure,<sup>(89)</sup> as the Swedish Foreign Minister replied<sup>(90)</sup> that: (1) the Swedish Government, "without the knowledge and assent of the Riksdag [two House Parliament], or at any rate of the Utrikesnämnd" (Foreign Affairs Committee of the Riksdag), would not enter into an agreement with the U.S. and U.K. Governments along the lines

proposed; (2) political considerations made it "impossible for the Swedish Government to put an option on uranium materials, by means of a secret agreement, in the hands exclusively of two of the great powers of the world."

Beginning with the acquisition of uranium ores in the Belgian Congo in autumn 1944, and intensifying its raw materials operations around the time of the atomic bombing of Hiroshima and Nagasaki, the Combined Development Trust by the end of 1945 had gained control of "97% of the world's uranium output from presently producing countries."<sup>(91)</sup> Of thorium, the Trust group of nations controlled "about 65% of the world supply in India and Brazil."<sup>(92)</sup> After Hiroshima and Nagasaki, the Trust continued its operations in Portugal to secure "complete control of the uranium deposits" in that country. Only the Soviet Union, and possibly Sweden, were considered capable of challenging the dominant status of the U.S. and the U.K. in the near future in terms of resources and industrial power. The Trust had concluded that in the Soviet Union "there was no evidence of any high-grade deposits." The policy of the Trust was to "try and secure exclusive control of all deposits and supplies of raw materials wherever they might be situated."<sup>(93)</sup>

The agreements concluded and negotiations held admittedly reveal that the U.S. and the U.K. pretended themselves to be the sole defenders of civilization (agreement with Belgium); that they went far beyond normal commercial practices, even to the point of dictating to other governments

on the disposition of their national products (agreement with Brazil and conditions proposed in the unsuccessful negotiations with Sweden); and that, in all this, their target was to deny to the Soviets any possibility of early development of atomic energy, and to block similar possibilities in other countries as well.

### III-2. INTELLIGENCE OPERATIONS OVERSEAS

The Manhattan Engineer District carried out extensive, covert intelligence operations, especially in Italy, France, and Germany, from the autumn of 1943 by its secret hands, "MED Scientific Intelligence (Alsos) Mission." These operations had dual aims: (1) to ascertain the level of research and development in atomic energy that was assumed to have been conducted by the German scientists under the Nazis, and, when the Nazis fell, to deprive them of all intellectual and material resources in this field, (2) to keep these resources from falling into Soviet hands.<sup>(94)</sup>

When Groves found out that the French Army's expected zone of advance included Hechingen, where Werner Heisenberg's uranium work had been in progress, he did not hesitate to take measures to see that the U.S. troops arrived at Hechingen and Haigerloch before the French Army. What his hands did

there was to capture and interrogate the German scientists and engineers who had worked there, seize and remove their records, and obliterate all remaining facilities. Anything that might be of "interest to the Russians," Groves writes,<sup>(95)</sup> should by no means be allowed to be acquired by the French. They had soon located also about 1,200 tons of uranium ore in Strassfurt, which had been removed from Belgium.<sup>(96)</sup>

#### IV. THE BOMB AS INSTRUMENT OF POLICY

##### IV-1. The Bomb Quid Pro Quo

In contrast to the fruition of the U.S. atomic partnership with Britain, and to the measures jointly taken to monopolize source materials, Washington was slow to draft a program for handling the severe political problems arising from nuclear weapons.

After the White House meeting with the President on September 22, 1944, Bush was later to tell Stimson that Roosevelt intended to maintain the Anglo-American atomic alliance even after the war, a step which Bush feared would cause the Soviets to speed up development of the bomb and give rise to a disastrous atomic arms race. This convinced

Bush of the need to implement postwar policy planning. (97)

Bush and Conant, in their memorandum of September 30, 1944 to the Secretary of War, were the first in the Manhattan Engineer District to point out the necessity to work out an international nuclear policy and to delineate the outline of such a policy. (98) In view of both the present and future military potentialities, the two science administrators pointed out that the advantage held by the U.S. and Britain could only be temporary, and strongly recommended that plans be laid for the full unveiling of the history of the development, everything except the manufacturing and military details on the bombs, "as soon as the first bomb has been demonstrated." Contending that U.S.-British attempts to carry on further developments of the bomb in complete secrecy would "encourage the Soviet Union" and others to proceed in secret along the same lines, they proposed "a free interchange" of all scientific information on the subject under the auspices of an international office deriving its authority from whatever association of nations is developed at the end of the war. As a specific measure toward this end, they suggested that the technical staff of the proposed office be provided with free access in all countries, not only to the scientific laboratories where such work is going on, but to the military establishments as well.

Whereas Niels Bohr crusaded for the wartime achievement of a modus vivendi with the Soviet Union on atomic bombs, the Bush-Conant proposal contained no measures to be taken either before the expected use of atomic bombs against Japan or in the period between such use and the ending of hostilities, but instead an outline for postwar control of atomic energy, accompanied by international inspection. Niels Bohr and Bush-Conant both pointed out the impossibility of maintaining secrecy for long, and the subsequent danger of an arms race, but the former placed the emphasis on peace between the U.S. and U.K. and the Soviet Union, while the latter emphasized the disclosure of the results of the Manhattan Project in order to assert the wide margin of American superiority. Even Bohr emphasized achieving a tripartite modus vivendi rather than non-use of the bomb.

The Committee on Postwar Policy under Richard Tolman, appointed by the Military Policy Committee in the summer of 1944 and reported to Groves, interviewed 44 Manhattan Engineer District scientists and received 37 memoranda from them in October and November 1944. The Tolman Report thus compiled concluded that governing all planning on atomic energy should be the necessity to maintain continued American superiority. Toward this end, the Report advocated the continuation of separation of uranium-235, the production of plutonium-239 and uranium-233, continuation of the work



on the development of fission weapons, and the encouragement of basic research and industrial development as essential for the maintenance of the superior status in advanced science and technology. The Tolman Committee did not comment on international control, but envisaged the establishment of a government agency to be responsible for coordination of studies and development, and for the distribution of resources.<sup>(99)</sup> A Metallurgical Laboratory Committee, with the approval of Arthur Compton, Manhattan District project leader in Chicago, in November 1944 issued a report known as "Prospectus of Nucleonics."<sup>(100)</sup> Both the Tolman report and the "Prospectus of Nucleonics" were in favor of government support of a comprehensive postwar nuclear energy program, though the two papers had no immediate impact on policy formulation.<sup>(101)</sup> The emphasis placed by the Tolman Report on the necessity of maintaining continued American military superiority gave an added boost to the measures already being taken.

The Bush-Conant proposal for an international exchange of scientific information was received rather cautiously in February 1945 by Stimson, whose thinking was that the U.S. should demand liberalization in the Soviet Union as a quid pro quo for S-1. The Secretary of War concurred with Bush on an exchange in the field of bacteriology.<sup>(102)</sup> The real intention of the Secretary of War however, seems

to have been to sidetrack the proposal of the two science administrators until such time as Stimson himself could formulate a convincing policy on atomic energy. Stimson's resourcelessness revealed itself in talks with the President in December 1944 and March 1945. On December 31, 1944, Stimson told Roosevelt that, although he had no illusion about the possibility of permanently keeping the secrets of atomic energy, he nevertheless felt it was not yet time to share them with the Soviets, at least until a definite quid pro quo could be obtained from them.<sup>(103)</sup> On March 15, 1945, the Secretary reported to the President that there were two schools of thought on the future control of atomic energy: one school favored the attempt by the U.S. and the U.K. to keep secret control, while the other school proposed international efforts based on a free exchange of scientific information, accompanied by free access to world atomic facilities by international inspection teams. Stimson noted that this choice had to be faced before the first use of atomic bombs. Although Roosevelt agreed with Stimson, nothing concrete was born of their talks.<sup>(104)</sup> On the sudden death of Franklin D. Roosevelt on April 12, 1945, Harry S. Truman was sworn into office.

## IV-2. MEASURES FOR ATOMIC MONOPOLY

In his full-scale briefing of the new President on the Manhattan Project on April 25, the Secretary of War had no specific nuclear policy to place before Truman. In his memorandum for the President,<sup>(105)</sup> Stimson pointed out that the U.S. and Britain had only temporary control over the science, engineering and raw materials necessary for the production of atomic bombs, and that, because of the very high probability of easier and cheaper methods of production being discovered, a small country or group of countries, or at least a great nation, might be able to produce atomic bombs in much shorter periods of time. Under such circumstances, the Secretary of War noted, control of the bomb would unmistakably be a matter of the greatest difficulty and would involve unprecedentedly "thoroughgoing rights of inspection and internal controls." Stimson remarked that the question of sharing the atomic bomb with other nations had become "a primary question" of American foreign relations. Groves, also present at the Truman-Stimson meeting, noted that a great deal of emphasis was placed on foreign relations, and "particularly on the Russian situation."<sup>(106)</sup> The only specific proposal Stimson made to Truman was one on the establishment of "a select committee" to recommend action to the executive and legislative branches of the

government "when secrecy is no longer in full effect," as well as actions to be taken by the War Department prior to that time "in anticipation of postwar problems."<sup>(107)</sup>

Whereas this select committee was appointed by the Secretary of War with Presidential approval as an "Interim Committee" in early May 1945<sup>(108)</sup> to study and report on the whole problem of temporary wartime controls and later publicity, and to survey and make recommendations on "postwar research, development and controls, as well as legislation necessary to effectuate them,"<sup>(109)</sup> it worked principally on the draft statements to be issued by the President and the the Secretary of War after atomic bombs had been used against Japan.<sup>(110)</sup> In its meeting on May 31,<sup>(111)</sup> in which four members of the scientific panel plus four others also took part by invitation,<sup>(112)</sup> the committee concurred in the view expressed by James Byrnes, Truman's Secretary of State-designate, that the most desirable program with regard to the Soviet Union would be to push ahead as fast as possible in production and research on the bomb to ensure that "we stay ahead and at the same time make every effort to better our political relations with Russia." All told, discussions on problems of control and inspection, on Russia, and on an international program, all converged on the same general attitude. The obvious contradiction between maintaining atomic supremacy and at the same time improving relations

with the Soviet Union was not even taken into consideration.

The problem of whether the bomb should be used against Japan did not even find a place on the agenda Stimson presented, as chairman of the meeting.<sup>(113)</sup> However, at a lunch table shared by Stimson, Byrnes, Arthur Compton, Earnest Lawrence, Robert Oppenheimer, and Groves, Compton asked the Secretary if something could possibly be arranged instead of the actual use of the bomb against the Japanese. Various possibilities were discussed in a negative way, but apparently no one present was willing to go further in the pursuit of alternatives to the planned use of the bomb.<sup>(114)</sup> Then, in the afternoon session, Stimson opened discussion on the "effect of the bombing on the Japanese and their will to fight." It was not a question of whether or not to use the bomb against the Japanese. That foregone conclusion remained untouched,<sup>(115)</sup> and the best brains were capitalized on, precisely to support this conclusion without discussing it. The meeting concluded: "we could not give the Japanese any warning; that we could not concentrate on a civilian area; but that we should seek to make a profound psychological impression on as many of the inhabitants as possible." It also "agreed that the most desirable target would be a vital war plant employing a large number of workers and closely surrounded by workers' houses." Bush and Conant in their October 30, 1944 memo-

randum had said that the first demonstration of the bomb might take place over enemy territory or in the U.S.

"with subsequent notice to Japan" that the bombs would be used against its mainland unless it surrendered, but they were silent even on this specific point of prior warning.

On June 1, the Interim Committee met with four business representatives.<sup>(116)</sup> The industrial panel estimated that the Soviet Union would be able to catch up with the U.S. in bomb development, perhaps in several years, much earlier than Groves's estimate of twenty years. In the executive session, the committee adopted James Byrnes's suggestion as the recommendation to the Secretary of War, that the bomb should be used as soon as possible and without warning against a Japanese war plant surrounded by workers' homes.<sup>(117)</sup> In terms of procedures, the unanimous conclusion<sup>(118)</sup> reached without ever studying the wisdom of the atomic bombing was evidently satisfactory for Stimson, who had prepared fully for the meetings during the previous days.

It should be recalled in this connection that at the White House meeting with Stimson and Groves on December 30, 1944, Roosevelt had approved the report prepared by Groves for George Marshall, that the target was Japan, and that the 509th Composite Group had been organized and put into training for the atomic bombing mission.<sup>(119)</sup> A similar plan was also approved by Truman on April 25, 1945. Three

days before the Interim Committee meeting, the Target Committee at its third meeting had concluded that Kyoto, Hiroshima, and Niigata were the best targets.<sup>(120)</sup> Groves soon handed the Army Chief of Staff a revised recommendation of the proposed targets, which now included Kokura, Hiroshima, and Niigata.<sup>(121)</sup> And even the Scientific Panel acquiesced in the planned atomic bombing.<sup>(122)</sup> They refused to identify themselves with the Report of the Metallurgical Laboratory's Franck Committee.

At this time, the overall military situation in the Pacific was moving swiftly toward Japan's defeat. Okinawa was being invaded since April, and major Japanese cities were being subjected to massive aerial bombing. Developing still further the overall objectives for invading and seizing the industrial heart of Japan, as confirmed in the Second Quebec conference, the American military strategy now set preliminary actions for invasion as the supreme operations in the war against Japan. On June 18, Truman approved the Joint Chiefs of Staff's plan for the invasion of Kyushu for November. At this meeting, the suggestion that Tokyo should receive an advance warning of the impending atomic bombing was turned down, for nobody was sure that bomb would work.<sup>(123)</sup> In spite of the devalued assessment of Soviet entrance into the war, pronounced by some military leaders, William Leahy and Ernest King, among others, Truman said

that one of his objectives for going to Berlin was to get from the Soviets all possible assistance in the war. (124)

The Soviet entry into the war against Japan, regardless of whether it was felt desirable for the U.S. or not, was considered by the War Department as a matter to be decided by the Russians "on their own military and political basis with little regard to any political action taken by the United States." (125)

Earlier on the same day, Truman had turned down a suggestion made by Joseph Grew, Acting Secretary of State, for a public statement calling on Japan to surrender. The President said he had decided to wait and discuss the tactic at Berlin. (126)

On June 21, the Interim Committee deleted one sentence from the draft statement of the President that would virtually have committed him to the pursuit of an international agreement on control. From the draft statement by the Secretary of War, references to the Quebec Agreement and various arrangements made for securing uranium and thorium ores were also deleted. (127) The committee thought that a postwar Congressional investigation would challenge certain measures already taken. With regard to the science panel's recommendation (128) that the allies be advised of the planned use of atomic bombs, the Interim Committee concluded that Britain would be asked for its approval as required by the Quebec



Agreement, but that the approval of France and China would be irrelevant. The President was to inform Stalin, if there was a suitable chance, of the bomb's successful development, and of the U.S. plan to use it against Japan.

It is to be noted in this connection that the Interim Committee passed a unanimous resolution that the Secretary of War be advised that the Interim Committee favored the revocation of Clause Two of the Quebec Agreement providing for Britain's prior approval before the use of the bombs. (129) It was to be expected that such a step toward nullifying the atomic alliance with Britain would be taken sooner or later in the light of the facts that the bomb development had been carried on overwhelmingly as an American project, and that having no knowledge of the existence of the Roosevelt-Churchill "Aide-Memoire," nobody regarded collaboration with Britain as binding. The potential value of the atomic bomb as an instrument of policy grew even greater as the weapon came closer to reality, and policy makers must have found it imperative to establish not only the de facto but also the de jure atomic monopoly of the United States. That the Interim Committee's action took place at this particular time should be seen in the context of the broader political and economic objectives Washington was vigorously seeking for the emerging postwar world. American strategy, for instance, to secure quid pro quo from Britain

for Lend-Lease by getting the latter to cooperate in the implementation of the crucial Article VII of that Agreement (notably the elimination of Imperial preference) to open the door of the Sterling bloc, had proved unsuccessful. At the time of the Nazi surrender, Truman had already terminated Lend-Lease aid to the Soviets and Britain except for the war in the Pacific. Apart from the very serious political impact this had on American-Soviet relations, this action also represented diplomatic leverage in controlling London's dollar balances and foreign trade,<sup>(130)</sup> with "a chaos of uncertainties" ensuing in the British economy in Stage II.<sup>(131)</sup> Atomic bi-polarity was not compatible with the new line up of forces between the emerging world power and the dwindling empire.

#### IV-3. THE BOMB AS A REALITY

In Potsdam, after receiving word of the successful atom bomb test at Alamogordo, on July 19 Stimson wrote a memorandum<sup>(132)</sup> which he handed to Truman on July 21, pointing out that it was in no sense an official paper. For Stimson, the problem arises out of the fundamental differences between a nation of "a really free people" and a nation "systematically controlled from above by Secret Police and

in which free speech is not permitted." As he saw it, therefore, no permanently safe international relations could be established between two such fundamentally different national systems, and this had "a vital bearing upon the control of the vast and revolutionary discovery of X" [atomic energy]. The Secretary of War had come to believe that no world organization containing as one of its dominant members a nation whose people are not possessed of free speech could exercise effective control over this new agency with its devastating possibilities. In Stimson's opinion, careful consideration was to be given to whether the U.S. could share its new discovery with the Soviets safely under some system of control until such time as the Soviet Union implemented its 1936 constitution, and the question of "how our head-start in X and the Russian desire to participate" in the atom bomb project could be used to bring the U.S. closer to the elimination of the basic difficulties, should be constantly explored.

This position was in sharp contrast to that of the Franck Report which urged the conclusion of "a specific international agreement barring a nuclear armaments race."

The Alamogordo test far exceeded the earlier expectations placed on the bomb. (133) During the Potsdam conference, while Truman agreed with Stimson in his stand referred to above, he and Churchill eyed the diplomatic value of the

bomb, though without ever placing it on the negotiating table with the Soviets. Nor did they take any initiative toward sharing the bomb with them. For the world to recognize the existence and power of atomic bombs, the bombs had still to be demonstrated in the most effective way possible against living targets in Japan, so that such weapons might be counted on as a sure factor in military operations and policy instruments. The atomic bomb came as a revelation to the world that the threats it implied of the dreadful consequences of Hiroshima and Nagasaki, which the U.S. had exactly sought in bombing these two cities,<sup>(134)</sup> might well befall any nation.

## V. EPILOGUE

Once the planned use of the bomb materialized over Hiroshima and Nagasaki, atomic bombs were elevated from a highly promising but uncertain factor into the dead center of U.S. policy making. Although his views expressed in the July 19, 1945 memorandum still remained basically unchanged, Stimson, who was soon to leave the Cabinet, two months later wrote to the President: "any demand by us for an internal change in Russia as a condition of sharing in the atomic weapon would be so resented that it would make the objective

we have in view less probable." (135) From this standpoint Stimson proposed: "we would be prepared in effect to enter an arrangement with the Russians, the general purpose of which would be to control and limit the use of the atomic bomb as an instrument of war, and, so far as possible, to direct and encourage the development of atomic power for peaceful and humanitarian purposes." (136)

Ironically, Stimson was coming a step closer to the positions of Niels Bohr and the Metallurgical Laboratory's Franck Committee, to which he had once turned a deaf ear, but only after he had done quite the opposite of what they had proposed. In Stimson's thought, the bomb had existed before Hiroshima and Nagasaki as the probable master-card to play to gain a quid pro quo from the Soviets, but after the atomic bombing he came to believe that the secrets were so fragile that it could not be counted on as such. In fact, he was now negating his earlier thought, a thought upon which he had directed policy making, although in 1947 he was still attempting to justify the decision to use the bomb.

Niels Bohr and the Franck Committee were not alone in warning against a nuclear arms race. Bush and Conant foresaw that danger explicitly in their September 30, 1944 memorandum, though their policy framework could not generate alternatives. Stimson pointed out the same danger in his

memorandum discussed with the President on April 25, 1945, although he too was devoid of measures to avert it. The actual course of events leading to Hiroshima and Nagasaki did nothing less than place the world, in Stimson's words, "at the mercy" of nuclear weapons. (137)

Despite the cautionary note of Stimson, the U.S. never tried to formulate a policy to avert the nuclear arms race, and recast international relations along the lines of the broad anti-fascist, democratic principles adhered to in various joint statements made by Roosevelt, Churchill, and Stalin. Obsessive preoccupation with global American hegemony was too deep-rooted a factor to encourage alternative policy considerations. Instead, the bomb became the main instrument of the new nuclear politics.

The physical inheritance of the Manhattan Project, which the Army was to transfer to the Atomic Energy Commission sixteen months after Hiroshima, included thirty-seven installations in nineteen states and Canada, with 254 military officers, 1,688 enlisted men, 3,950 Government workers and about 37,800 contractor employees, (138) which, by then, had provided an embryonic infrastructure of the military-industrial-academic complex of later years.

There were other inheritances, however. Heir to the legacy of its predecessor, the Truman administration proliferated qualitatively new legacies, anti-human and politi-

cal, which have been handed on to this present time, and possibly even beyond. The atomic bombing had put on record the death toll of 140,000 ( $\pm$  10,000) in Hiroshima, and another 70,000 ( $\pm$  10,000) in Nagasaki by the end of 1945,<sup>(139)</sup> with many more dying from the delayed effects of radioactivity in later years, and the existence of tens of thousands of bomb-affected survivors (HIBAKUSHA), with all the unspeakable human and social consequences. The atomic bombing and the American atomic monopoly demonstrated to other nations that Hiroshima and Nagasaki could one day be their fate. Thus, the Manhattan Project and the atomic bombing had created an international milieu, best suited politically and militarily for the U.S. to initiate its "atomic diplomacy"<sup>(140)</sup> in the postwar world, thereby giving rise to the nuclear arms race.

It was only a matter of four years before the Soviet Union exploded its own atomic bomb. Before long, Britain, too, was to step on to the path of its own nuclear "independence and deterrence."<sup>(141)</sup> The logic for other powers to do likewise had been implanted in world politics by what the American leaders had sought in the Manhattan Project.

## NOTES

## I. PROLOGUE

(1) Leslie R. Groves, *Now It Can Be Told: The Story of the Manhattan Project*, London, 1962, pp. 352-353.

(2) Quoted in Richard G. Hewlett and Oscar E. Anderson, Jr., *The New World, 1939/1946*, Vol. I, *A History of the United States Atomic Energy Commission*, Pennsylvania, 1962, p. 17.

(3) The reference is to Joseph Rotblat, made in the presentation by Bernard Feld at an international symposium on nuclear disarmament, "From the Manhattan Project to Human Survival," which was held in Tokyo on August 3, 1978. Rotblat was one of the twentyone British consultants and scientists who were working at Los Alamos from the end of 1943 throughout the war. See Margaret Gowing, *Britain and Atomic Energy, 1939-1945*, London, 1964, pp. 261-262, and 262n.

(4) Martin J. Sherwin, *A World Destroyed: The Atomic Bomb and the Grand Alliance*, New York, 1975, p. 145.

(5) Truman's "Radio Report to the American People on the Potsdam Conference," August 9, 1945, *Public Papers of the Presidents: Harry S. Truman*, Washington, 1961, p. 212.

(6) Stimson's later account quoted by Henry L. Stimson and McGeorge Bundy in *On Active Service in Peace and War*, New York, 1948, p. 630.

(7) For Niels Bohr's thought on international control of atomic energy, see Sherwin, pp. 94-98; for Bohr's memoranda to, and meeting with, Roosevelt, see *ibid.*, pp. 96n, 98n, and 108-109; for Bohr's meeting with Churchill, see Gowing, pp. 353-355, and 371.

(8) "The Franck Report," June 11, 1945, reprinted in Alice K. Smith, *A Peril and a Hope, The Scientists' Movement in America: 1945-47*, Chicago, 1965, appendix B, p. 561, in which the quoted sentence is italicized.

(9) For this view, see TACHIBANA Seiitsu, "Scientists and the logic of the Manhattan Project" (in Japanese), *Nihon-no-Kagakusha (Journal of Japanese Scientists)* Vol. 13, No. 7, Tokyo, July 1978.

(10) Problems of the so-called "combat use," as some historians call it, of atomic bombs against the two Japanese cities will not be dealt



with here fully as these would need another essay. For a historiographical review, see TACHIBANA Seiitsu, "Recent American Studies on the Dropping of the Atomic Bomb" (in Japanese), *Rekishigakukenkkyu* or *Journal of Historical Studies*, No. 459, Tokyo, August 1978.

## CHAPTER II:

(11) The Marquess of Lothian, Aide-memoire to Roosevelt, July 8, 1940 in: Leslie Groves, "Diplomatic History of the Manhattan Project" (hereafter DHMP), Harrison-Bundy files, Box 159, Folder 111, Manhattan Engineer District Records, Record Group 77, National Archives, Washington, D.C., Annex 1.

(12) Groves, pp. 126-127; Hewlett and Anderson, pp. 256-257.

(13) Gowing, pp. 65-66, and 41-42; also see a memorandum by O. R. Frisch and R. Peierls entitled "On the Construction of a 'Superbomb'; based on a Nuclear Chain Reaction in Uranium, circulated among key scientists of the Committee on the Scientific Survey on Air Defense and Air Warfare in March 1940, reprinted *ibid.*, appendix 1, pp. 389-393.

(14) Hewlett and Anderson, pp. 40-41, and 256-258.

(15) *Ibid.*, p. 258.

(16) For the establishment of OSRD, see "Executive Order No. 8807, dated June 28, 1941 (as amended by Executive Order No. 9389, dated October 18, 1943), Establishing the Office of Scientific Research and Development in the Executive Office of the President and Defining its Functions and Duties," reprinted in James P. Baxter, 3rd, *Scientists Against Time*, Boston, 1946, appendix B, pp. 452-455.

(17) Hewlett and Anderson, pp. 41-43. Final "Report by M.A.U.D. Committee on the Use of Uranium for a Bomb," July 1941, reprinted in Gowing, appendix 2, pp. 394-436. For Bush-Conant proposal for a joint Anglo-American project, see *ibid.*, p. 94. Sir John Anderson replied only in March 1942, *ibid.*, pp. 132-133.

(18) For the use of the British report by Bush to seek Presidential support, see Hewlett and Anderson, pp. 42-43, 45-46, and 258-259, and for "Top Policy Group," p. 46.

(19) Roosevelt to Churchill, October 11, 1941, as quoted *ibid.*, p. 259, and in Gowing, p. 123.

(20) Churchill to Roosevelt, headed December 1941 with no date

specified, as quoted *ibid.*; see also Winston Churchill, *The Second World War*, Vol. IV, *The Hinge of Fate*, Boston, 1950, pp. 378-379.

(21) The summary of conclusion of the Scientific Advisory Committee's Panel, 'M.A.U.D., Report,' September 25, 1941, extracted in Gowing, p. 105; see also pp. 107, 125, and 142, for explanations.

(22) Blackett suggested that discussions on the subject be held with the Americans. *Ibid.*, p. 125.

(23) The Maud Committee was taken over by the "Directorate of Tube Alloys" set up in the Department of Scientific and Industrial Research in the autumn of 1941 with Sir John Anderson, Lord President of the Council, as chairman. The parent body was formally disbanded in December by the Minister of Aircraft Production. The new Directorate comprised the Tube Alloys Consultative Council, the policy making body, and the Tube Alloys Technical Committee. *Ibid.*, pp. 109-110, and Anderson's words, quoted in pp. 123-124.

(24) For a comparative account of the two projects in the period between the autumn of 1941 and the spring of 1942, see *ibid.*, pp. 122-134.

(25) Although the type of research plant is not specified in Hewlett and Anderson, p. 261, the status of development in Britain suggests that the plant in question is a gaseous diffusion plant for uranium isotope separation, as can also be judged from Gowing, pp. 124-126, 137-138, 142-146, and 161. The same official historian, p. 145, note 1, says that there is no written record of the Roosevelt-Churchill talk on the matter, and points out that by this time the Tube Alloys Consultative Council had still not decided in favor of the joint project and that the Prime Minister was not briefed about atomic energy before visiting Washington. Meanwhile, *Manhattan Engineer District History*, suggests that the Maud report and the British representations to Roosevelt made through Churchill were a considerable factor in expanding American laboratory work to engineering. Anthony Cave Brown and Charles B. MacDonald, eds., *The Secret History of the Atomic Bomb*, New York, 1977, p. 254.

(26) Gowing, pp. 137-144, and quotation from 144.

(27) For the inauguration of "DSM Project" and "S-1 Executive Committee," see Hewlett and Anderson, pp. 74-76, and for the start of the "Manhattan Engineer District," p. 81.

(28) For the establishment of the "Military Policy Committee," see *ibid.*, pp. 82-83; see also Baxter, p. 439.

(29) "Minutes from Sir John Anderson to Prime Minister," 30.7.42, reprinted in Gowing, appendix 3, pp. 437-438; Tube Alloys Consultative Council decisions and John Anderson's two letters to Vannevar Bush, as digested *ibid.*, pp. 143-146; cf. Gowing's account, p. 145, note 2, that Anderson wrote two letters, with Hewlett and Anderson, pp. 261-263, who state that Bush received three letters from Sir John.

(30) Gowing, p. 229.

(31) "For example," writes W. A. Akers, the Imperial Chemical Industries-turned Director of Tube Alloys, "if we were certain that the Lawrence method [electro-magnetic] were likely to be the best for carrying the concentration, say, from 50% to 100%, then we should cease to envisage a diffusion plant capable of carrying out the complete separation, but would confine our attention to a plant which would concentrate up to 50%." Akers to James B. Conant, December 15, 1942 in: DHMP, Annex 7.

(32) W.A. Akers's words, as quoted in Gowing, p. 154. For different accounts of Anglo-American conflicts at the time, see Hewlett and Anderson, pp. 264-267, and Gowing, pp. 149-155; cf. Groves, pp. 125-130.

(33) Hewlett and Anderson, pp. 267-268. The official historian of the British Atomic Energy Authority, however, writes: "This Agreement had been made with the complete knowledge and approval of the Americans..." Gowing, p. 155. For American knowledge of the Anglo-Soviet agreement, see U.S. Department of State, *Foreign Relations of the United States, Diplomatic Papers* (hereafter *FRUS*), 1942, Vol. II, pp. 738-740, 753-754; for a proposed U.S.-U.K.-Soviet agreement for exchange of information concerning military inventions, see *RRUS*, 1943, Vol. III, pp. 738, 792-798.

(34) For Bush's recommendation, see "Excerpt from Report to the President by the Military Policy Committee, 15 December, 1942, with Particular Reference to Recommendations Relating to Future Relations with the British and Canadians" in: DHMP, Annex 6; for an account of events, see Hewlett and Anderson, p. 268. The American position is conspicuously stated in the controversial Conant "Memorandum on the Interchange with the British and Canadians on S-1," January 7, 1943, outlined *ibid.*, pp. 268-269; cf. Gowing, pp. 156-157. In terms of scientific-technological aspects, at least one American scientist was critical of the lack of full interchange with Britain on the ground that it had certainly resulted in a "delay of six months...perhaps... a year or more, in...the homogeneous heavy water pile." Harold Urey to James Conant, June 21, 1943, as quoted in Sherwin, 76n.

(35) Hewlett and Anderson, p. 271.

(36) Gowing, pp. 167-168, and 175; she also observes, p. 161, that because of the vast military and industrial potentialities of atomic energy, "Britain could not contemplate exclusion from them."

(37) John Anderson's words, as quoted *ibid.*, p. 168.

(38) As viewed by Gowing, *ibid.*

(39) Hewlett and Anderson, pp. 270-274; Robert E. Sherwood, *Roosevelt and Hopkins; An Intimate History*, New York, 1950, pp. 703-704; Gowing, pp. 145n, 159-161, and 164; Brown and MacDonald, p. 243. Another reason was added, writes Gowing, p. 164, to the British desperate need of full interchange while Churchill was in Washington as he received news from John Anderson that Britain's only uranium source and possible supply of heavy water, both in Canada, were in danger of being denied to them unless full Anglo-American collaboration is restored, for the U.S. had secured them.

In a Washington meeting with Bush arranged by Harry Hopkins, Lord Cherwell, Churchill's advisor on Tube Alloys, is said to have stated that "the real reason they wished this information at this time was so that after the war they could then at that time go into manufacture and produce the weapon for themselves, so that they would depend upon us during this war for the weapon, but would be prepared after this war to put themselves in a position to do the job promptly themselves." Bush, "Memorandum of Conference with Mr. Harry Hopkins and Lord Cherwell at the White House, May 25, 1943" in: DHMP, Annex 9.

(40) For the record of the meeting, see H.H.B. [Harvey Bundy], "Memorandum of Meeting at 10 Downing Street on July 22, 1943" in: DHMP, Annex 11.

(41) Hopkins to Roosevelt, July 20, 1945, as quoted in Hewlett and Anderson, p. 274.

(42) Roosevelt to Bush, July 20, 1943 in: DHMP, Annex 8.

(43) Stimson was sympathetic to Churchill's position on the grounds that the cooperation of the two English-speaking nations should continue during and after the war, and all the more so, now that atomic energy had produced a new order in international relations. Hewlett and Anderson, pp. 275-276. However, Bush was highly critical of the Roosevelt decision, for full interchange with Britain, he was later to write, "would have made all sorts of trouble for him [Roosevelt] after the war, had he lived." Vannevar Bush, *Pieces of the Action*, New York, 1970, p. 284. So was Conant. See Conant to Bush, July 30, 1943 in: DHMP, Annex 10.

(44) Hewlett and Anderson, p. 280.

(45) Sherwood, pp. 733-734, notes that U.S.-British relations with the Soviet Union became "appreciably worse," in spite of, or rather because of, all encouraging manifestations such as the actual victories gained over the Nazis, U.S.-British Government announcement on abandoning "extra-territorial rights" in China, the dissolution of the Comintern, and so on. As one factor contributing to the deterioration, he points out, pp. 705-706, the outburst in March 1943 by Adm. William H. Standley, U.S. Ambassador to Moscow, to devalue the Soviet contribution to the war in favor of American aid. Averell W. Harriman, then representative in London of the Combined Production and Resources Board (Lend-Lease Coordinator), is also quoted as having reported that British and Americans in London were "secretly pleased at the way Standley spoke out in Moscow."

(46) For this view, see Sherwin, pp. 88-89, and 90-104; Barton J. Bernstein, "The Uneasy Alliance: Roosevelt, Churchill, and the Atomic Bomb, 1940-1945," *Western Political Quarterly*, University of Utah, Vol. XXXIX, No. 2, June 1976, pp. 211 and 226. For a "four-power" nucleus of the United Nations as envisioned by Roosevelt and Sumner Welles, see Harry Hopkins memorandum on "Eden Visit—Conference with the President, Anthony Eden, Cordell Hull, Sumner Welles, Viscount Halifax, Mr. Strang," March 27, 1943, *FRUS*, 1943, Vol. III, Washington, 1963, p. 39. For the concept of "The Four Policemen," as proposed by Roosevelt to Stalin, see Bohlen Minutes of "Roosevelt-Stalin Meeting, November 29, 1943...at Soviet Embassy," Tehran, *FRUS: The Conferences at Cairo and Tehran 1943* (hereafter *Cairo & Tehran*), Washington 1963, pp. 530-531, and for Roosevelt's sketch, p. 622; for Roosevelt's idea of "two policemen," see Sumner Welles's two memoranda, Aug. 11, 1941, *FRUS*, 1941, Vol. I, pp. 363 and 366.

(47) For the Davies mission to Moscow in May 1943 for arrangements with Stalin, see *FRUS*, 1943, Vol. III, pp. 657-660, and *FRUS: Cairo & Tehran*, pp. 3-7. Sherwood, p. 734, writes that Roosevelt-Stalin meeting was arranged for July 15, 1943.

(48) For U.S. concern on "Free Germany" movement, see *FRUS*, 1943, Vol. III, pp. 530-533, 555-560, and 602-605; and for rumors of "a separate Russo-German Armistice" and for official records of communications and meetings on the subject, see *FRUS*, 1943, Vol. III, pp. 682-687. Meeting with the Swedish Minister in Washington, U.S. Under Secretary of State, Sumner Welles denied the rumors and had this to note on August 12, 1943, *ibid.*, p. 684: "...the Soviet Union was a signatory of the United Nations Declaration which pledged... not to enter into a separate armistice or peace [with the Nazis]."

(49) Gabriel Kolko, *The Politics of War: The World and United States Foreign Policy, 1943-1945*, New York, 1968, p. 29.

(50) Although the war in Europe still remained the major preoccupation, the Anglo-American Washington Conference in May 1943 for the first time formulated the desirability of Soviet participation in the war against Japan. The restated Anglo-American strategy now placed the unconditional surrender of Japan on the agenda, with possible Soviet participation upon the defeat of the Nazis. The U.S. realized that the Soviet participation would mean an increased Soviet say in Far Eastern affairs. Nevertheless, they were realistic enough to take it, for it would incur "far less cost" to the U.S. See U.S. Department of Defense, "The Entry of the Soviet Union into the War Against Japan: Military Plans, 1941-1945" (hereafter "The Entry of the Soviet Union..."), mimeograph, Washington, 1955, pp. 18-19, and p. 21 for Joint Chiefs of Staff 506, Note by Secretary, sub.: Instructions Concerning Duty as Military Observer at American-British-Soviet Conference, 18 September 1943.

The Washington overtures in March 1943 between American leaders and British Foreign Secretary, Anthony Eden, had proved to be an attempt to coordinate Anglo-American political arrangements in extensive areas and to design a common blueprint for their subsequent negotiations with Moscow. See Hopkins memorandum, note (46) above.

In the field of economic relations, the U.S. and the U.K. were trying to patch up their differences, above all, over dollar-sterling conflicts for the postwar world. The plans for financial collaborations were progressing well, as evidenced by the Harry Dexter White-J. M. Keynes plans released in the spring of 1943, requiring equivalent measures in the field of international trade. See Richard N. Gardner, *Sterling-Dollar Diplomacy: Anglo-American Collaboration in the Reconstruction of Multilateral Trade*, Oxford, 1956, Chs V and VI.

(51) "Articles of Agreement governing collaboration between the authorities of the U.S.A. and the U.K. in the matter of Tube Alloys," August 19, 1943 in : DHMP, Annex 18; Released to the public for the first time in 1954, the text is reprinted in U.S. Department of State, *United States Treaties and Other International Agreements*, Vol. 5, Part 1, Washington, 1954, pp. 1115-1116.

(52) Stimson was appointed chairman of the Combined Policy Committee, with General Wilhelm D. Styer acting as his deputy. Bush and Conant filled the remaining seats of American members.

(53) For interchange arrangements, see "Memorandum by Brigadier General L. R. Groves," 10 December 1943, as approved by the Combined Policy Committee in : DHMP, Annex 19; also see Hewlett and Anderson, pp. 280-282.

(54) Gowing, Chs. 9 and 10.

- (55) *Ibid.*, pp. 234, 237, and 268.
- (56) Groves to Henry Wallace, Henry Stimson, and George Marchall, August 21, 1943, as outlined in Hewlett and Anderson, p. 285.
- (57) *Ibid.*, pp. 285-286.
- (58) For text of "Agreement and Declaration of Trust," 13 June 1944, see DHMP, Annex 22a, reprinted in *FRUS*, 1944, Vol. II, p. 1026.
- (59) Hewlett and Anderson, p. 286.
- (60) *Ibid.*
- (61) For text, see DHMP, Annex 28, reprinted in *FRUS: The Conference of Quebec*, 1944, Washington, 1972, pp. 492-493. Neither Stimson nor Vannevar Bush had been informed of even the existence of this document before June 25, 1945. See *ibid.*, p. 492, fn. 2; Churchill to Stimson, July 18, 1945, *FRUS: The Conference of Berlin (The Potsdam Conference)* (hereafter *Potsdam Papers*), 1945, Vol. II, Washington, 1960, Doc. No. 1306, pp. 1370-1371.
- (62) Winston Churchill, *The Second World War*, Vol. VI, *Triumph and Tragedy*, Boston, 1953, p. 583.
- (63) For the Military Policy Committee decision, see Hewlett and Anderson, p. 253. For Roosevelt-Bush talks on June 24, 1943, see Bush, "Memorandum of Conference with the President," Atomic Energy Commission Doc. No. 133, as quoted in Sherwin, 210n.
- (64) "The Entry of the Soviet Union...", p. 25.
- (65) *Ibid.*, pp. 28-31.
- (66) Hewlett and Anderson, pp. 327-328, state that the White House meeting took place in the presence of Admiral William D. Leahy, President's Chief of Staff, and who had just been informed of the Manhattan Project, and Lord Cherwell, Churchill's scientific adviser. To Leahy, who had not been at all convinced of the power of the weapon under development, Bush's presentation was "not completely convincing." William D. Leahy, *I Was There*, New York, 1950, p. 269.
- (67) See note (7) above. For Roosevelt's inquiry about Bohr and Bush's reply at the White House meeting on September 22, 1944, see Bush memorandum, A.E.C. Files, Historical Document No. 185, as quoted in *FRUS: The Conference of Quebec*, 1944, p. 492, fn. 1.
- (68) Paragraph 3 of Roosevelt-Churchill Aide-Memoire which includes

this quotation was deleted from the *Potsdam Papers* version published in 1960.

(69) W. K. Hancock and M. M. Gowing, *History of the Second World War; War Economy*, London, 1949, pp. 527-528.

(70) Gowing, pp. 289-290.

(71) Gowing, pp. 290-292, writes that during the negotiations on the Quebec Agreement, the British made no mention about their commitments to the French. A March 1944 British list of the agreements already reached on atomic energy, presented to the Combined Policy Committee, did not include the patent agreements with the French.

(72) *Ibid.*, pp. 209-211.

(73) *Ibid.*, pp. 214-215.

(74) DHMP, pp. 21-23; also see, Gowing pp. 292-295.

(75) As noted in Harvey H. Bundy, "Problems with Respect to the French," 19 January 1945, reprinted in Sherwin, appendix G, pp. 289-290.

(76) Stimson diaries, December 31, 1944, as quoted *ibid.*, p. 133.

(77) Hewlett and Anderson, p. 336.

(78) Churchill's draft reply to Foreign Secretary Anthony Eden's Minute of March 20, 1945, reprinted in Shwerin, appendix H, pp. 290-291. The sentences quoted here, although deleted from the final text, pinpoint an important aspect of Churchill-Roosevelt intentions. De Gaulle had always been treated with contempt by Churchill, some episodes of which are told by Alexander Werth, *De Gaulle: A Political Biography*, Penguin, 1965, especially p. 144.

### CHAPTER III:

(79) The Murray Hill Area, established in the Manhattan Engineer District on 15 June 1943, carried out an extensive geographical exploration to estimate global distribution of uranium resources, which was to furnish the District with basic data necessary for action. Brown and MacDonald, pp. 191-199.

(80) Extract "Minutes of a Meeting of the Combined Policy Committee," Washington, March 8, 1945, reprinted in *FRUS*, 1945, Vol. II, p. 8.

(81) "Memorandum of Agreement Between the United States, the United



Kingdom, and Belgium Regarding Control of Uranium," September 26, 1944 in: DHMP, Annex 23, and reprinted in *FRUS*, 1944, Vol. II, pp. 1028-1030. Before Hiroshima, the U.S. had received from the Congo about 300 tons of uranium ore, for which payment was made half by the U.S. and the rest by the U.K. Gowing, p. 318, fn. 2.

(82) Gowing, p. 316; Hewlett and Anderson, pp. 286-287, and 288.

(83) Memorandum by Mr. S. Maurice McAshan, Jr., and Colonel John Lansdale, on the Staff of the Commanding General (Groves), Manhattan Engineer District (hereafter CGMED), "Report on Negotiations in Rio de Janeiro, June 27-July 10, 1945," Rio de Janeiro, July 10, 1945; The Ambassador in Brazil (Berle) to the Secretary of State, Rio de Janeiro, July 10, 1945; the American Ambassador (Berle) to the Brazilian Minister for Foreign Affairs (Velloso), Rio de Janeiro, July 10, 1945; "Memorandum of Agreement Between the United States of Brazil and the United States of America," signed on the 6th and effective from the 16th of July 1945 (in: DHMP, Annex 24), all reprinted in *FRUS*, 1945, Vol. II, pp. 14-23. Groves, p. 184, writes that, after the war, the Brazilian Government abrogated this agreement on the ground of U.S. failure to comply with the terms of agreement. U.S. uranium production was to increase beyond the prior forecast, with a resultant decline of interest in thorium.

(84) The reference is made in extract "Minutes..." in note (80) above, p. 9. Gowing, pp. 317-318, states that an agreement with the Indian State of Travancore was not reached until 1947.

(85) As a result of London talks on several occasions from mid-July through early August 1945, the U.S.-U.K. Governments entered into an agreement with the Dutch Government on the purchase of monazite from the Dutch East Indies. For a detailed account, see "Report on Trip to England: 8 July to 1 August 1945," a Memorandum by Major Harry S. Traynor, on the Staff of CGMED (Groves), Washington, August 3, 1945, *FRUS*, 1945, Vol. II, pp. 25-36. However, the agreement remained mostly ineffective for the same reason as in the case of Brazil. Gowing, pp. 317-318. When Groves's "Diplomatic History of the Manhattan Project" was declassified on May 16, 1973, the "Netherlands Agreement, dated 4 August 1945" (Annex 26) was still classified.

(86) "Draft Memorandum of Instruction From the United States and United Kingdom Governments to the [U.S.] Minister in Sweden [Herschel] Johnson," London, 20 July, 1945, *FRUS*, 1945, Vol. II, p. 24.

(87) *Ibid.*, p. 25.

(88) See note (86) above, and "Report on Trip to England..." in note (85) above, pp. 25-36.

(89) For official accounts of the negotiations with Sweden, see "The Minister in Sweden (Johnson) to CGMED (Groves)," Stockholm, September 22, 1945, and "Memorandum by Major John E. Vance, on the Staff of CGMED (Groves)," 25 September 1945, *FRUS*, 1945, Vol. II, pp. 45-46 and 50-53. Groves DHMP, p. 29, notes that there were months of delay in initiating negotiations with Sweden partly because the British thought that Sweden was in the British "sphere of influence" and hence American participation would not be welcomed.

(90) "The Swedish Minister for Foreign Affairs (Unden) to the American Minister (Johnson)," Stockholm, September 11, 1945, *FRUS*, 1945, Vol. II, pp. 46-47.

(91) "The Chairman of the Combined Development Trust (Groves) to the Chairman of the Combined Policy Committee (Patterson)," Washington, December 3, 1945, *FRUS*, 1945, Vol. II, pp. 84-85.

(92) *Ibid.*

(93) Extract "Minutes of a Meeting of the Combined Policy Committee," Washington, December 4, 1945, *FRUS*, 1945, Vol. II, pp. 87-89.

(94) Groves, pp. 189 and 242.

(95) *Ibid.*, p. 234.

(96) *Ibid.*, p. 239.

#### CHAPTER IV:

(97) Stimson-Bush talks, September 25, 1944, as described in Hewlett and Anderson, pp. 328-329.

(98) "Memorandum" by V. Bush and J. B. Conant on "Salient Points concerning Future International Handling of Subject of Atomic Bomb," September 30, 1944, reprinted in Sherwin, appendix F. pp. 286-288. The quotations that follow are from this memorandum.

(99) Hewlett and Anderson, pp. 324-325; Smith, p. 18.

(100) Smith, pp. 19-20; for Jefferies Committee members, see *ibid.*, p. 42, and for the text of "Prospectus of Nucleonics," see *ibid.*, appendix A, pp. 539-559.

(101) Hewlett and Anderson, p. 325.

(102) *Ibid.*, p. 338.

(103) *Ibid.*, p. 335.

(104) *Ibid.*, p. 340.

(105) Stimson's "Memo Discussed with the President," April 25, 1945, reprinted in Sherwin, appendix I, pp. 291-292, and also, with slight deletion, in Stimson and Bundy, pp. 635-636.

(106) Groves's "Report of Meeting with the President," April 25, 1945, reprinted in Sherwin, appendix J, pp. 293-294.

(107) See note (105) above.

(108) The Interim Committee comprised: Henry L. Stimson, Secretary of War and committee chairman; George L. Harrison, Stimson's aide and acting chairman (president of New York Life Insurance Company); James F. Byrnes (then a private citizen) as personal representative of the President (soon to be nominated as Secretary of State); Ralph A. Bard, Under-Secretary of the Navy (industrial financier and consultant in Chicago); William L. Clayton, Assistant Secretary of State (cotton broker); Vannevar Bush, Director, Office of Scientific Research and Development, and president of the Carnegie Institution of Washington; Karl T. Compton, Chief of the Office of Field Service in the Office of Scientific Research and Development, and president of the Massachusetts Institute of Technology; James B. Conant, Chairman of the National Defense Research Committee, and president of Harvard University. Stimson and Bundy, p. 616, and Hewlett and Anderson, p. 344.

(109) Stimson's invitation letter of May 4, 1945, to the Interim Committee nominees, as quotes in Sherwin, p. 169.

(110) Hewlett and Anderson, pp. 353-354.

(111) R. Gordon Arneson, "Notes of the Interim Committee Meeting," May 31, 1945, reprinted in Sherwin, appendix L, pp. 295-304. The quotations that follow are from these notes.

(112) Present at the Interim Committee meeting on May 31, 1945, in addition to the committee members, were the four scientists who formed the Science Panel: J. Robert Oppenheimer, Enrico Fermi, Arthur H. Compton, and E. O. Lawrence; and by invitation, George C. Marshall, Army Chief of Staff; Major Gen. Leslie R. Groves, Commanding General, Manhattan Engineer District; Harvey H. Bundy, Stimson's aide (Boston Lawyer); and Arthur Page (Stimson's old friend and aide). See Arneson, "Notes....," note (111) above.

(113) The suggested items of agenda included: 1. Future military

weapons. 2. Future international competition. 3. Future research. 4. Future controls. 5. Future developments, particularly non-military. See Arneson, "Notes...", note (111) above.

(114) Sherwin, pp. 207-208; also see Arthur H. Compton, *Atomic Quest: A Personal Narrative*, New York, 1956, pp. 238-239.

(115) Arthur Compton, p. 238, writes: "Throughout the morning's discussions it seemed to be a foregone conclusion that the bomb would be used."

(116) The Industrial Panel comprised a quartet of business leaders: Walter S. Carpenter of du Pont, James C. White of Tennessee Eastman, George H. Bucher of Westinghouse, and James A. Rafferty of Union Carbide. Hewlett and Anderson, p. 359.

(117) *Ibid.*, pp. 359-360.

(118) Ralph A Bard, Under-Secretary of the Navy, on June 27, 1945, submitted his memorandum to George L. Harrison, acting chairman of the Interim Committee, disassociating himself from the Interim Committee decision on the ground that advance warning should be given to Japan before the planned atomic bombing. See *U.S. News & World Report*, August 15, 1960, pp. 73-75, for his memorandum and interview.

(119) Hewlett and Anderson, p. 334; Groves to Marshall, Washington, December 30, 1944, "Atomic Fission Bombs," *FRUS: The Conference at Malta and Yalta*, 1945, Washington, 1955, pp. 383-384.

(120) Hewlett and Anderson, p. 365.

(121) Groves to Marshall, June 13, 1945, as outlined *ibid.* For the selection of targets and the work of the Target Committee composed of the Manhattan Project scientists and ordnance specialists, also see Groves, pp. 267-276, and Sherwin, pp. 229-231.

(122) The Science Panel "Recommendations on the Immediate Use of Nuclear Weapons," June 16, 1945, reprinted in Sherwin, appendix M, pp. 304-305, read in part: "we can propose no technical demonstration likely to bring an end to the war; we see no acceptable alternative to direct military use."

(123) *Potsdam Papers*, I, p. 889n; Louis Morton, "The Decision To Use the Atomic Bomb," *Foreign Affairs*, Vol. 35, Jan. 1957, pp. 341 and 348.

(124) *Potsdam Papers*, I, p. 909.

(125) Memorandum of Acting Secretary of State, Joseph Grew for Secretary of War, Stimson, and Secretary of the Navy, Forrestal, 12 May 1945, and Stimson's reply to Grew, 21 May 1945, both reprinted in "The Entry of the Soviet Union...", pp. 68-71.

(126) Hewlett and Anderson, pp. 362-363.

(127) *Ibid.*, p. 368.

(128) See note (122) above.

(129) R. Gordon Arneson, "Notes of the Interim Committee Meeting," June 21, 1945, as quoted in Sherwin, p. 215.

(130) Kolko, pp. 488-499, gives an extensive account of American-British relations in terms of the American economic war aims.

(131) Hancock and Gowing, p. 533.

(132) Stimson, "Reflections on the Basic Problems Which Confront Us," Babelsberg, July 19, 1945, reprinted in *Potsdam Papers*, II, No. 1157, pp. 1155-1157, from which the following are quoted.

(133) Groves's "Memorandum for the Secretary of War" on "The Test," Washington, 18 July 1945, with four enclosures, reprinted in *Potsdam Papers*, II, No. 1305, pp. 1361-1370.

(134) For different views on the atomic bombing and the origin of the cold war, see Gar Alperovitz, *Atomic Diplomacy: Hiroshima and Potsdam*, London, 1966, and his *Cold War Essays*, Cambridge, Mass., 1970, Ch. V; Herbert Feis, *The Atomic Bomb and the End of World War II*, Princeton, 1966, Ch. 17; Kolko, pp. 549-599; Barton J. Bernstein, "The Atomic Bomb and American Foreign Policy, 1941-1945: An Historio-graphical Controversy," *Peace & Change*, II, No. 1, Spring 1974, and his "Roosevelt, Truman, and the Atomic Bomb, 1941-1945: A Reinterpretation," *Political Science Quarterly*, Vol. 90, No. 1, Spring 1975; Sherwin, *op. cit.*

## V. EPILOGUE:

(135) Stimson to Truman, Washington, September 11, 1945, and the attached memorandum on "Proposed Action for Control of Atomic Bombs," both reprinted in *FRUS*, 1945, Vol. II, pp. 40-44; for the quotation, see p. 41.

(136) *Ibid.*, p. 43.

(137) See note (105) above.

(138) U.S. Army's transfer list to the Atomic Energy Commission upon its inauguration in 1947, as outlined in Hewlett and Anderson, p. 2.

(139) "The Physical and Medical Effects of the Hiroshima and Nagasaki Bombs," in Japan National Preparatory Committee, ed., *Proceedings of International Symposium on the Damage and After-Effects of the Atomic Bombing of Hiroshima and Nagasaki*, Tokyo, 1978.

(140) "Atomic diplomacy" is defined by Barton J. Bernstein as "the use of nuclear weapons as threats or as bargaining levers to secure advantages from" a specific country or countries. Bernstein, "Roosevelt, Truman, and the Atomic Bomb, 1941-1945: A Reinterpretation," cited in note (134) above. The term is also defined by Martin J. Sherwin as "either the overt diplomatic or military brandishing of atomic weapons for the purpose of securing foreign-policy objectives, or a covert diplomatic strategy based upon considerations related to atomic weapons," in Sherwin, 192n, and in his "The Atomic Bomb and the Origins of the Cold War: U.S. Atomic-Energy Policy and Diplomacy, 1941-45," *Journal of American History*, Vol. 60, No. 4, March 1974, p. 947, n. 6.

(141) Margaret Gowing, *Independence and Deterrence: Britain and Atomic Energy*, Vols. I & 2, London, 1974.

