The Early Days of the Bomb

Independence and Deterrence. Britain and Atomic Energy, 1945–1952. MARGARET GOWING. Assisted by Lorna Arnold. St. Martin's, New York, 1975. Two volumes. Vol. 1, Policy Making. xiv, 504 pp. + plates. $25. Vol. 2, Policy Execution. xiv, 560 pp. + plates. $25.

No problem of post–World War II international politics has been more vexing and intransigent than that of the spread of nuclear weapons. The bomb has not spread rapidly, but now seven nations have nuclear weapons and more stand on the threshold of military nuclear capability. There are two strategies that have been used to prevent or delay acquisition of weapons by new holders: the first involved making acquisition as difficult as possible; the second sought to make it unnecessary.

Using the first approach, existing nuclear states have tried to prevent the uninitiated from learning weapons secrets and have accelerated their own efforts, striving to price potential aspirants out of the market. It is too early to say whether other nations will attain nuclear superpower status, but this tactic has not prevented the dispersion of small atomic capabilities. And the attempt to keep others out has actually heightened the incentive to join the "nuclear club."

The second tack has been no more successful. The attempt to offer "nuclear guarantees" to potential members as a means of persuading them to renounce their option has largely failed. The guarantees that have been discussed either were not credible or if credible involved such an extension and rigidification of the obligations of the guarantor power that they could not be given. Only a few states have national interests similar enough to agree to defend them with a merged or single weapons program. Some, of course, do. Canada could have become the world's second nuclear power but did not elect to do so, and a number of members of the North Atlantic Treaty Organization rely entirely on the United States for nuclear defense. But generally speaking only the closest allies can agree to such arrangements.

A priori, the British-American relationship would appear to be a case where, with understanding on both sides, two independent nuclear programs could have been avoided. It was the British who first convinced the United States of the feasibility of a deliverable nuclear bomb. They contributed greatly to the American program during the war, giving up their own program until 1945. The interests of the two nations were harmonious, though not identical; the two countries tended to look on defense and foreign policy problems in similar ways. At the end of the war, of course, Britain would regard the bomb as an attribute of great-power status, and as an instrument she must possess. But even this did not mandate an independent British effort, separate and distinct from that of the United States. Whether such an effort would materialize depended upon American as well as British policy.

Margaret Gowing's official history of the British atomic energy program in the first seven years after the war makes clear how many opportunities for a joint effort were missed and, quite correctly in this reviewer's opinion, lays the major responsibility for these errors at the doorstep of the United States. Of the official postwar histories of atomic matters Gowing's is the most comprehensive, frank, and factual. Though she must have confronted security barriers at every level, she has succeeded in writing an admirably balanced, hugely informative, and cogent analysis of the postwar British program. Since a very large part of this program dealt with relations with the United States and Canada, her two volumes are also a partial history of American and Canadian efforts. They reveal many new facets of American policy that were not fully treated in the U.S. Atomic Energy Commission's volume covering the same period (R. G. Hewlett and F. Duncan, *Atomic Shield, 1947/1952*, University Park Press, 1969).

Two features of Gowing's work are particularly worth noting, along with many interesting sidelights. The first concerns British reasons for acquiring an atomic bomb. The second has to do with how that might be achieved in cooperation with the United States. At the end of 1945 Prime Minister Attlee set up a research establishment to inquire into all aspects of atomic energy. One atomic pile was authorized, which at full production would be capable of producing enough plutonium for 15 bombs a year. But the decision actually to make nuclear bombs was left until January 1947. This delay is surprising. In certain respects an independent decision to make bombs would have been more comprehensible in 1945: Britain did not have an ally; her relations with the United States were not particularly good; and already Russia loomed as a potential enemy. A bomb might help to deal with a number of future contingencies. By 1947, however, while relations with Russia were no better (possibly worse), relations with the United States had greatly improved. The United States in December 1946 had agreed to transfer to Britain classified information on the American order of battle, military research and development, and intelligence and classified technical and scientific data pertaining to matters other than atomic energy. A military standardization agreement had been reached. Influential U.S. policymakers were saying informally that they regarded Britain as America's major ally. But atomic energy cooperation between the United States and Britain was at its nadir. The McMahon Act of 1946 had effectively ended any possible exchange of information. The act violated the Quebec Agreement of 1943 and the tripartite accord of November 1945 between the United States, the United Kingdom, and Canada, both of which envisaged such a flow. Of course, Britain did not decide to develop a bomb merely because the United States refused cooperation. Her 1945 decisions had looked toward a military program even though no decision had been taken. She knew that from 30 to 120 atomic bombs detonated on British cities might cause a national collapse and that possession of her own atomic weapons would be the most effective deterrent for an atomically armed adversary. In addition, as Gowing says, "The atomic bomb was the last word in weapons so Britain must have it" (vol. 1, p. 209). But if the information exchange agreements had been honored, Britain might have concurred in a pooling of atomic weapons production. The result could have been a joint program with bombs allocated to Britain from the common effort.

The second episode in Anglo-American misunderstanding occurred with the negotiation of the *modus vivendi* of January 1948. The British were in a uniquely favorable bargaining position. They knew that the United States wished to obtain a greater share of the Congo ore then stored in Britain in addition to acquiring all new Congo production. In return the British would ask for a resumption of information exchange. They were

also willing to cancel the provision in the Quebec Agreement that gave them a veto on American use of the atomic bomb, and they knew that the United States would not try to restrict their commercial exploitation of atomic power, as it had once insisted upon doing. But the British did not want to give away their advantages; in exchange for ore they wanted fissionable material to study plutonium metallurgy. As it turned out they got neither the material nor the information; they did, however, provide generously for U.S. needs for ore. The information exchange was confined to categories in which the British might help the Americans, and even in these areas exchange was greatly truncated. The British got no weapons information, no material, and little general scientific information of value. In fact, the American proposal for the talks had been based wholly on the need "to buy British accommodation in uranium at rock-bottom price" (vol. 1, p. 254). The British went along, hoping that a general improvement in relations with the United States would eventually lead to a more forthcoming attitude on atomic matters. In this they were deluded.

The most important episode in British-American dealings on the subject came at the end of 1949. The Soviet atomic explosion had greatly accelerated the American program and increased the need for ore allocations from Britain. Indeed, if Britain developed her third pile it would encroach upon ore supplies badly needed in the United States. The British acquiesced in such reasoning and dropped their third pile (not too unwillingly). They hoped that in return there might be some progress toward an information exchange or perhaps even toward a greater pooling of nuclear efforts. At their maximum position the British were prepared to give up a fully independent production of nuclear weapons in the United Kingdom, retaining only prototype plants that might be developed for such purposes later on. In return they wanted a store of bombs in the United Kingdom (a minimum of 20) with the others from the joint production efforts in the United States stored in Canada as well as in the United States. They would send their scientists to work in the United States. They would keep two piles and a low-separation diffusion plant in the United Kingdom because of their relevance for peaceful energy uses; all bomb fabrication would take place in the United States.

The Klaus Fuchs spy case, which broke on 2 February 1950, put an end to such proposals, but in any event the United States would not have accepted them. Congress would not tolerate any vestige of an independent U.K. bomb program, and it did not want any bombs stored in England, fearing they would be vulnerable (a point that no British official could possibly accept). The final result, of course, was that the British proceeded on their own; they did not receive help from the United States. Even the American offer to allow the British to test their bomb in the United States was so hedged with security restrictions that the Australian site seemed a better alternative. The British exploded their bomb at Monte Bello, on 3 October 1952.

The American case for not providing help to Britain was based on a series of rationalizations. At first it seemed that the McMahon Act ruled out all cooperation, but then it turned out that the United States would press for an exchange that was valuable to America, but not to Britain. Congress was the culprit on many occasions, expressing surprise at the independent British bomb program and its size. (It must be remembered at this stage that the British were planning three piles at the time that the United States was moving to five, and that British planning documents aimed at a stockpile of some 200 bombs between 1957 and 1960 whether or not they had help from the United States. [The U.S. stockpile before Korea was probably about 100 bombs.]) United States officials insisted on visiting the most sensitive British facilities before agreeing to any pooling arrangements, but the British were not allowed into American facilities. Information on graphite, plutonium metallurgy (which would be useful in a separation plant), and other matters was denied the British at a time when it would have been very helpful. Nor was the problem one of British security, for on other matters highly confidential information was being exchanged.

It is in retrospect difficult to avoid the conclusion that American attitudes reflected hubris and a desire to throttle developments in other countries, with no necessary gain in security or strength vis-à-vis the Soviet Union. Two alternative attitudes would have been more defensible. America could have refused all proposals for cooperation and made the British proceed on their own. This might have limited American ore stockpiles, but it would certainly have stimulated the British program, which, as we have seen, was not small. The United States would also have proceeded much more rapidly to develop American ore sources. Or America could have offered a full pooling of information and exchange (as later came with the 1958 amendments of the McMahon Act) and induced the British to give up the final stages of their efforts, concentrating them in the United States. This also would have provided for basic security for both sides, as British plutonium would be sent to the United States for inclusion in the more efficient American bomb designs. What happened actually had the worst features of both alternatives: the British labored on at a fairly large program without help from the United States, and the United States dilatorily developed its own bombs, emphasizing technological skill more than quantity until the Soviet detonation of August 1949.

At no point, of course, was there a possibility that the British would give up bombs altogether. But they would have been willing to go into a production program with the United States (in which Canada would be a partner) which would have meant the effective end of a separate national effort.

In the longer run, of course, the strategy of joint programs would not have greatly circumscribed the spread of production technology, for the United States could not go on indefinitely cooperating with newcomers in the nuclear business. After 1958, it effectively drew a line excluding France from such collaboration, and it could not have included many others. Nonetheless, if Britain and the United States had really cooperated in the early years after the war an important precedent would have been set, and the joint U.K.-American program would have appeared much harder for other nations to match. If Britain had pooled her efforts, the stimulus to independent French development, though still present, would have greatly declined.

Gowing also makes clear in fascinating detail the degree to which the British depended upon Canada in the early development years. The Canadians had the second producing reactor in world politics; they provided plutonium for British experiments when the United States refused to do so. They provided information and consultation that were entirely lacking on the American side. Whatever may have been true in other areas, Gowing conclusively demonstrates that in atomic energy there was no special relationship between the British and the Americans in the years immediately following the war.

RICHARD ROSECRANCE
Center for International Studies, Cornell University, Ithaca, New York