

29. Much, therefore, remained common to both plans. Both plans, for example, relied on the ability of our existing radar chain stations to detect pilotless aircraft in the same way as they detected ordinary aircraft. After taking expert advice I had come to the conclusion that the stations would be able to do this, and that we should be able to tell pilotless from piloted aircraft by "track behaviour"—that is to say, the characteristics of their flight as interpreted by the radar responses. Similarly, members of the Royal Observer Corps would, presumably, be able to recognise pilotless aircraft by their appearance and the noise they made.\* All that was required under this head, then, was to lay down a procedure for reporting pilotless aircraft by the means already in existence, and instruct all concerned in its use. For this both plans provided.

30. Again, at every stage the principal object that General Pile and I had in mind was the defence of London, which was the target threatened by the vast majority of the "ski sites". Secondly, we had to provide for the defence of Bristol, which was threatened by a smaller number of "ski sites" near Cherbourg. Thirdly, we had to bear in mind the possibility that, as a counter-measure to our preparations for the European operations, pilotless aircraft might be used against assembly areas on the south coast, and particularly round the Solent.

31. In each case, fighter aircraft were to be the first line of defence. For the defence of London the arrangement envisaged in both plans was that whenever an attack in daylight seemed imminent, fighters of No. 11 Group would patrol at 12,000 feet on three patrol lines, 20 miles off the coast between Beachy Head and Dover, over the coastline between Newhaven and Dover, and between Haywards Heath and Ashford respectively. Once an attack had begun, additional aircraft would patrol these lines at 6,000 feet. At night, fighters would patrol under the control of G.C.I., Type 16, and C.H.L. radar stations, and would be reinforced, if necessary, by further aircraft under Sector control.

32. At Bristol and the Solent the facts of geography promised a longer warning and more room to manoeuvre as well as a lighter scale of attack. Consequently I did not propose to fly standing patrols for the defence of those places. Should attacks appear imminent, however, fighters would be held ready to intercept by normal methods.

33. Under both plans, guns and searchlights would provide the next line of defence, and would, of course, become the first line of defence if at any time the state of the weather or any other factor prevented the fighters from operating. For the defence of London, General Pile and I proposed under the first plan to deploy 400 heavy A.A. guns in folds and hollows on the southern slopes of the North Downs, where their radar equipment would be liable to the minimum of interference from "jamming" by the enemy. We also proposed to use 346 light A.A. guns, to be deployed largely on searchlight sites, and 216 searchlights. In front of Bristol we proposed to put 96 heavy A.A. guns and 216 light A.A. guns,

with 132 searchlights. Thirty-two heavy A.A. guns, 242 light A.A. guns and a smaller number of searchlights would defend the Solent.

34. It was here that the most important differences between the two plans lay. The original plan called for the deployment of a grand total of 528 heavy and 804 light A.A. guns and more than 350 searchlights. Clearly, to muster as many guns and searchlights as this would not be easy. General Pile and I proposed to find half the required number of heavy A.A. guns from within Anti-Aircraft Command by depleting the defences of places not directly threatened by pilotless aircraft; the other half would have to come from the resources of 21 Army Group and Home Forces, and thus would consist very largely of guns already earmarked for the European operations. In the case of light A.A. guns and also of searchlights, 21 Army Group would have to provide an even higher proportion of the total.

35. Some risk would, of course, be involved in removing guns from places like Oxford, Birmingham, and the Clyde to defend London, Bristol, and the Solent against flying bombs. But the risk was one that I felt we should be justified in taking, since otherwise there was no possibility of finding the resources required for adequate defence against the threat from pilotless aircraft as we conceived it in December, when the plan was made.

36. By February, when we came to draw up the revised plan, the position had changed. Virtually every gun and searchlight that could be spared would shortly be needed for the European operations; and it was essential that the "Diver" defences should make the smallest inroad on the "Overlord" resources that was compatible with an adequate scale of defence. Fortunately, the success of the bombing attacks on the "ski sites" held out the hope of achieving an adequate scale of defence on cheaper terms than had seemed possible two months earlier.

37. Accordingly, General Pile and I carefully reviewed this part of our original plan. We came to the conclusion that substantial savings in both guns and searchlights could and must be made. We therefore proposed to reduce the number of heavy A.A. guns to be deployed on each of the sites in the belt defending London from eight to four. This would save 208 guns. We hoped that by the time the attacks began 128 American 90 mm. guns, using electrical predictors and a new type of radar called S.C.R.584, might be available to replace a corresponding number of our 3.7-inch guns with their mechanical predictors and G.L. Mark III radar; for there was every indication that the S.C.R.584 and electrical predictors would be particularly effective against pilotless aircraft. But as this equipment had yet to arrive from the United States and crews be trained in its use, we dared not count on it: we therefore prepared alternative plans to cover either contingency. We also proposed to reduce the number of light A.A. guns in front of London from 346 to 246.

38. No reduction in the number of heavy A.A. guns defending Bristol seemed possible, and we decided to leave this figure at 96. In view of the great need of light A.A. guns for "Overlord" we proposed, however, to reduce

\* All these assumptions proved correct.