

*Resumption of Night Attacks.*

54. Apart from mine-laying, with the concurrent attacks on coastal towns, the "Baedeker" raids and a few other sporadic attacks, the United Kingdom had been comparatively free of attacks by night ever since May, 1941, but in the autumn of 1943 the German air forces once more began to apply themselves to this form of raiding.

55. The fast fighter-bombers now began to come over at night and they were later accompanied by new fast bombers. At first the raids were comparatively small and of shallow penetration but from October, 1943, they began to increase in size and to aim again at London.

56. I have already mentioned that night fighters might be put on to a bomber either by searchlights controlled from the Sector Operations Rooms or by the R.A.F. Controllers using their G.C.I. radars from G.C.I. stations. The unpredictable behaviour and speed of the present targets sometimes meant that a night fighter failed to secure an interception because it was limited to one or other of the two forms of control. It was only at this stage that successful co-ordination of the two forms of control began to be achieved, the chief step towards which was the shifting of the control of the searchlights from the Sector Operations Rooms to the G.C.I. station. After this it was possible to change from one method of control to another and back again and so to exploit the advantages of each with perfect flexibility. It was also possible to use without friction both methods in order to maintain the maximum number of night fighters in operation. This series of attacks may be said to mark the peak of searchlight performance, for not only were they used to the best advantage in co-ordination with fighters but their own performance in illumination exceeded everything that had been achieved before.

57. The guns on the other hand were somewhat disappointing and I looked for considerable improvements as soon as experience with new equipment had increased. At this time the Automatic Fuze-setter was just coming in, so were new marks of radar, the 4.5-inch guns were about to be converted into 3.7-inch Mark 6 and 5.25-inch guns were also beginning to be deployed.

58. The new radar sets were very sensitive to interference and on 7th/8th October, 1943, the Germans began to drop strips of metallised paper similar to those which our own bombers had for some time been using over Germany. These had the effect of producing spurious breaks in radar cathode ray tubes which could either be mistaken for aircraft or else appeared in such profusion that an aircraft break could not be identified and followed. It was a move which had been anticipated but to which no satisfactory answer had been found.

59. At first no great trouble was caused because of the limited amount of paper dropped and lack of tactical application in its use. An improved and increased use of it soon followed, however, with very serious effects. Early warning radar equipments were unable to give any accurate estimate of numbers of aircraft approaching nor of the heights at which they were flying nor even where they might be expected to make landfall. Similarly, inland sets found themselves largely unable to track individual aircraft and in places sets were rendered

absolutely useless. While, in October, 1943, only the leading aircraft used to drop the paper, by February, 1944, every raider was doing so and sometimes areas 50 miles long and 25 miles wide were completely infected.

60. Searchlights were the most seriously affected and frequently had to resort to the old and ineffective control by sound-locators. Many gun control radars were affected but a few types were able to continue in service.

61. There was every reason to anticipate a renewal of heavy attacks on London, for the German air forces had for some time been experimenting with pathfinder technique. The quality of their navigation had greatly deteriorated and it was common for many raiders to lose their way completely during this period and if pathfinder flares had been wrongly placed over open country to have no hesitation in bombing there.

62. The anticipated heavy raids began on 21st/22nd January, 1944, with 200 aircraft in the first raid; the improvement in gunnery was considerable, eight raiders being destroyed, while searchlights contributed to half of the R.A.F.'s eight successes. Other raids followed and the attacks culminated in a week of intensive raiding beginning on 18th/19th February, 1944. In March, 1944, raiding became much more sporadic though still heavy on individual nights.

63. At the same time Heavy and Light guns, searchlights and smoke screens were moving southward for the protection of the invasion ports. Some experience on a more limited scale had been obtained in July and August, 1943, when there had been a large increase in coastal defences in the South for a large scale exercise known as "Harlequin". On that occasion the area affected had stretched from Dover to the Solent and the defences there, which already consisted of 266 Heavy guns, 319 Bofors and 171 searchlights, were increased by 348 Heavy guns, 432 Bofors and 93 searchlights. After the exercise in September, 1943, the additional defences had dispersed.

64. Now, during the spring of 1944, we began to build once more the defences all round the coast from Great Yarmouth to South Wales. I was responsible not only for equipment in Anti-Aircraft Command but also for a large number of Heavy and Light guns which were loaned to me by the Field Army, at any rate until the invasion had been launched and they were wanted overseas; I also received assistance both in Heavy and Light guns from the U.S. Army forces on the same terms. These loaned equipments had to be most carefully woven into the fabric of defence so that their early withdrawal would not disturb the balance of defence remaining.

65. I have already referred to the valuable scientific help given me by the Americans in the early stages of the war; this help was continued right through. There was the closest liaison between us at all times and in the second half of 1943 a specially selected Demonstration Battery from Anti-Aircraft Command had conducted a most successful six months' tour in the United States with a consequent valuable exchange of views. In December, 1943, U.S. anti-aircraft units had become operational in the United Kingdom, some batteries being deployed for the defence of London while their