contribute to success, there were also innumerable other smaller matters which each in its own way played its part. No less than 200 modifications, for example, were made to the Heavy guns by my R.E.M.E. Services, while an almost equal number of adjustments had to be made to the American equipments before they could finally be put into action.

82. General Eisenhower himself took the greatest personal interest in the battle, maintaining that London was as much a base for American troops as for British ones; he insisted on being allowed to increase the defences by the welcome addition of 20 American Anti-Aircraft Batteries equipped with 90-mm Heavy guns. The total of Heavy guns in the belt rose to nearly 600.

83. My ultimate object was to provide an almost robot defence to a robot attack; I visualised the battle as the culmination of the scientific development and training of more than four years and the final proof, if such proof were needed, that the troops of Anti-Aircraft Command, though they must be soldiers first, must become far more than mere soldiers; they must be scientists and technical operators of the highest quality.

84. For the moment training was still a tremendous problem, and there was much more to be done than simply to train Heavy Anti-Aircraft on the new equipment, itself a serious enough problem in the middle of a major battle. Besides lowering the normal base of Heavy Anti-Aircraft fire in order to cover the unprotected height band in which the bombs were flying, we endeavoured to raise the normal ceiling of Light Anti-Aircraft fire. For this purpose arrangements were made to use radar for the first time to control light guns, and light anti-aircraft troops had therefore to be instructed in methods of unseen fire, hitherto a closed book to them.

85. The flying bombs also presented an unparalleled opportunity for trying out equipments still in the experimental stage. It provided all the difficulties of an operational target flying at great speed with the security that no reports of our counter-action would become available to enemy sources. Interspersed with more normal equipment along the belt were anti-aircraft tanks, experimental versions of the Polsten gun, Ministry of Aircraft Production experimental quadruple 20-mm guns, other 20-mm guns with gyro sights, Bofors guns linked to No. 7, No. 9 and No. 10 predictors, Petroleum Warfare Department 9-inch mortars, 2-inch Naval rockets and others. More was learnt about the potentialities of anti-aircraft work in 80 days than had been learned in the previous 30 years.

In addition one Searchlight Regiment was converted to a Rocket rôle and manned 4 twin Rocket Batteries, 512 barrels in all.

86. The original inland searchlight belt did not move to the coast with the guns and it was only at this stage that it began to give full value. There were now two fighter areas, one out to sea and one behind the gun belt. With the latter the Searchlights co-operated at night. Although the flame from the propulsion unit of the flying bomb made it self-illuminating at night, fighters were not usually able to judge its distance or course without the assistance of a searchlight intersection, especially while making a fast dive and turn towards it. Owing to the low flying height of the bomb a rapid traverse was required and this called for skilful operation, especially since it was essential not to dazzle the fighter, which, at such low heights and high speeds, would then have been in imminent danger of crashing. Of the targets which penetrated the coastal belt at night, searchlights assisted fighters in the destruction of 142, or something over 30 per cent.

87. The continuous nature of the attack, the simultaneous need for training and the constant building of sites (and re-building as they were moved to admit new equipment) caused a very severe strain on the men and women in the battle line. Guns were sometimes manned for 100 per cent. of the 24 hours and often for between 80 per cent. and 90 per cent. Relief forces had to be drawn in from units in other parts of the country.

88. On 19th August, 1944, the eastward advance of the armies in France rendered the westward end of the belt largely superfluous, and the portion between Cuckmere Haven and East Hastings was closed down and the units used either to reinforce the remainder or to extend it from St. Margaret's Bay to Sandwich. At the same time units from 21st Army Group and from Training Establishments were largely withdrawn so that the burden of the battle devolved more upon the units of Anti-Aircraft Command itself. This had the advantage that a greater degree of uniformity in fire control discipline could be secured, and much rather wild shooting was now eliminated.

89. The re-adjusted belt continued to show improved results until activity ended on 5th September, 1944, with the capture by the armies in France and Belgium of the remaining launching sites. The degree of improvement since the period of the inland belt, when the successes were under 10 per cent., is shown in the percentages of flying bombs destroyed in the following successive weeks; these were, in the first phase of the coastal belt, 17 per cent., 24 per cent., 27 per cent., 40 per cent. and 55 per cent., and, in the second phase of the coastal belt, 60 per cent. and 74 per cent.

90. It had been established early in July, 1944, that the Germans were not only launching their flying bombs from ground sites on the French coast, but were also launching a few from specially adapted aircraft. Some of these flew westwards down the Channel, aimed either at Southampton or Bristol, others came in from the North Sea towards London. The latter threat was the more serious, and a deployment was ordered along the coast from the River Blackwater to Whitstable, known as the "Diver Box". The Maunsell Forts in the Thames Estuary proved an invaluable addition to this defence scheme.

91. On 16th September, 1944, attacks were renewed, but many of the bombs came down upon London from the north-east, thereby outflanking the Diver Box to the north. On 18th September, 1944, therefore, 16 Heavy Batteries and 9 Light Batteries began to move to the area between the River Blackwater and Harwich. The attackers moved further north and the outflanking continued. On 21st September, 1944, it was decided to create a new belt