

January and during the first half of February raiding was hindered by bad weather.

On 19th/20th February, 1941, a third phase began in which, though the objectives remained the same, a more determined attempt was made to put them completely out of action by raids on successive nights, which would take advantage of the dislocation caused the night before. Swansea was the first town so attacked, and other cities, and especially Liverpool, suffered from these methods. In this phase of the battle there was an emphasis on the West although other areas were frequently visited. This emphasis had a very high strategic significance, which caused us to draw 58 guns from the Midlands for the protection of western ports.

The east and much of the south coast had already been largely denied to our shipping; an attack of alarming proportions on our Atlantic sea routes had also developed. A vigorous attack on our western ports might well inflict such damage that the country would, to all intents and purposes, be isolated from the outside world, and every risk had to be taken to prevent this happening.

70. I have already mentioned that a certain amount of the equipment I had at the beginning of the war was on loan from the Royal Navy. Now I was asked for, and agreed to, the return of this equipment. As early as the beginning of 1940 I had agreed to supply Lewis guns and crews for merchant ships. In addition to the return of borrowed equipment, I was asked in turn to lend a large amount of my own equipment in the form of 300 Bofors guns for the protection of shipping, together with the men to man them and 1,000 rounds of ammunition per gun. Thus the Light anti-aircraft defences, which already stood at only 22 per cent. of requirements, were cut to 15 per cent. The Maritime Royal Artillery, thus formed, passed eventually out of my control altogether, but before it left it had given such excellent service as to ensure its continuance.

I was at the same time informed that the R.A.F. would soon be requiring the 20-mm. cannons which I had on loan. My hope that the deficiency might be made good by the employment of Rocket defences was nullified by a decision to give the Admiralty an absolute priority for these weapons.

71. I thus had to meet the last stages of the Battle impoverished in my Light anti-aircraft resources but with renewed hope that the technical advances of the spring would improve the results of Heavy anti-aircraft shooting.

72. The battle virtually came to an end on 12th May, 1941, after a heavy raid on London. As in every other aspect of the war, so in the air war the Germans changed their tactics as soon as it became evident that we had gained the upper hand. So, while the preparations they had to make for the Russian campaign no doubt influenced the decision, there is no doubt the German General Staff had by May, 1941, come to the conclusion that the war was not to be won by aerial attacks on this country and that the cost of such attacks was heavy. Between 1st April and 12th May, 1941, the successes scored by the guns mounted steadily. During this month and a half 72 planes were destroyed by night by the guns and 82 probably destroyed or damaged. The fighters too were now showing tremendous improvement.

73. At this point I propose to conclude this first part of my despatch. It covers a period in which success in battle was achieved with great difficulty and in which developments in technique were very considerable. At the beginning of the battle our method of defence was still the same as that of three years before; at the end I felt we had begun to make real progress; certainly the foundation of later successes had been laid. What had especially been achieved was the conversion of a large body of troops from ordinary soldiers into skilled technical operators, and this was an essential pre-requisite for successful anti-aircraft gunnery.

I have referred chiefly to the gun and searchlight units, but without the help of the ancillary services, Signals, Medical, Ordnance and Supply, progress could never have been made nor the battle continued. While full credit must be given to the troops of all kinds, and indeed their conduct under very hazardous and trying conditions was beyond all praise, the foundations of success, however, was laid by the scientist, both civilian and in uniform. The Operational Research Group has already been referred to. Its work was brilliant. The technical staff at Command Headquarters, under the leadership of Brigadier Krohn, C.B.E., M.C., T.D., was and remained throughout the war a vital factor in every scientific advance, and not least must I pay a tribute to those young American scientists who volunteered to help us and who played their part in all our Blitzes. That these gentlemen became available and for many other helpful and friendly acts our thanks are due to Brigadier Claude Thiele, U.S.A., who was one of the first American officer observers to reach this country after the outbreak of war and whose wisdom and help I continually sought throughout the whole course of the war.

## PART II.

### PREAMBLE.

1. In the first part of my despatch I described the problems and progress of the anti-aircraft defences during the opening phases of the war and during the first period of sustained attack by the German air forces which lasted from July, 1940, to May, 1941.

2. In this second part I propose to carry the report on from that date to the time I relinquished command in April, 1945. Though this was a few weeks before the final German capitulation there was no air attack of any kind upon the United Kingdom after that date and therefore this part of my despatch is in effect a report upon the whole of the remaining period of hostilities.

### SECTION I.—GENERAL.

3. I mentioned in the first part of my despatch how the early months of 1941 saw an increase in the problems of manpower and how various innovations had to be made and some reduction in the searchlight defences had taken place.

#### *Mixed Batteries.*

4. The problem was met by the introduction of mixed units and it must at once be said that, while there were many doubters in the early days, the mixed units proved a triumphant success. In these units the proportion of