

RADAR-Another Christchurch Achievement

Scientific Wonder Perfected at Local Establishment

"GREATER THAN THE ATOMIC BOMB"—

YET IT GREW UP IN CHRISTCHURCH

FRIDAY, AUGUST 24, 1945

RADAR, the marvel-product of British scientific genius, was perfected in the great, but inconspicuous, Government Experimental Establishment built just before the war at Somerford, Christchurch.

For the first time ever, the Christchurch Times is proud to publish the fact that much of the research into this amazing discovery, as well as its development into probably the greatest war-winner the Allies possessed, was carried out within the Borough of Christchurch.

The publication of the full story of Radar has sent a thrill round the world. It has aroused the greatest interest in this Borough to which "Somerford" (as it was commonly called by many who weren't quite sure whether it was dangerous talk to call it anything else) suddenly arrived in an atmosphere of mystery, and where this outstanding work has been carried out beneath a cloak of secrecy.

Realising, of course, that the scientists who have produced and perfected Radar, have come not only from all parts of this country, but from many parts of the world, Christchurch is, nevertheless, proud indeed of the privilege of associating its name with their famous achievements. Christchurch is the home of the Bailey Bridge. To that claim to fame we are now glad to add that we provided one of the homes of Radar; may we say the most important of its four homes, that in which it spent the whole of its adolescence.

THE STORY OF RADAR IN CHRISTCHURCH

One of the reasons why there is such an acute housing problem in Christchurch, of which many people have for a long time been aware, though the Christchurch Times has never before been allowed to mention it, is that during the war we have had to house so many "back room boys." At its busiest time, some 900 persons were employed at the Government's factory situated in Highcliffe Road, between Somerford and Humphrey's Bridges, where experimental work has been carried out by A.D.E.E. (Air Defence Experimental Establishment), A.D.R.D.E. (Air Defence Research and Development Establishment) and S.R.D.E. (Signals Research and Development Establishment).

The factory buildings were put up before the war. At that time no one was told what kind of work was going to be done in them. All we knew was that they were going to be "hush hush" —and, knowing that, speculation was rampant.

At the time the Somerford buildings welcomed their first tenants, Radar had been developed by the pioneers at Orford and Bawdsey to the extent that the whole of the East and South East coasts were under constant cover of the searching rays, ready and able to locate approaching raiders.

The importance of the work carried out by A.D.R.D.E. was that, starting from its own initial discovery it developed many applications which were used to baffle and defeat the enemy in the air (whether flying high or low), on the ground and on the sea. Directly they produced something new it was, as soon as production permitted, put to use by the Army, Navy, Air Force—in every way it could possibly be employed. A device for locating surface ships, for instance, was brought into successful use against the sneak raider.

"SEEING" 20 MILES.

One of the most spectacular examples of the employment of Radar was during the German evacuation of Boulogne when the coastal guns at Dover sank 11 out of 18 ships which, at a range

of 20 miles, were far out of sight. That was carried out by a device which not only showed on the instrument the position of the ships themselves; but also showed the position in which the shells were bursting in relation to the target. **And the particular principle used in this application of coast artillery Radar Control was initiated at Steamer Point, Christchurch.**

The first improvement on the coast defence stations installed on the outbreak of war round the East and S.E. coasts, was made in Christchurch. This was known as G.C.I. (Ground Controlled Interception for night fighters) and the first station of its kind was made by A.D.E.E. at Somerford and first used at Sopley at Christmas time, 1940. Much of the early equipment was tried out at Sopley and, as a matter of fact, all searchlights in this area were put under the control of Col. Raby for operational and experimental use.

CO-OPERATION FROM CHRISTCHURCH.

The Telecommunications Establishment had its flying unit originally stationed at Christchurch, later at Hurn and then near Malvern; and a feature of the work carried out by all the various establishments was the way they co-operated and exchanged ideas. "A.I." (Air Interception) for instance, was developed between Swanage and Christchurch, and was linked with G.C.I. at Sopley. A.I. was carried by night fighters and led to the defeat of Luftwaffe night bombers.

G.L.—Radar control of anti-aircraft gunnery, also started at Bawdsey and was continued at Christchurch and Malvern.

THE STORY OF "ELSIE."

One of the most creditable bits of work at Somerford was the application of Radar to searchlight control, known as S.L.C. (or "Elsie" for short).

Three Somerford men, W. S. Eastwood, D. R. Chick and A. J. Oxford, in the summer of 1940, were fed up with the way German bombers flew over this district with never a searchlight near them. Searchlights were acoustically controlled at that time. These three asked if they could be allowed, in their spare time and in addition to their normal duties, to produce a Radar-controlled searchlight. They were given permission, and the first testing was so successful that the highest authorities ordered 24 sets to be manufactured before the next moon-phase. "Elsie" was in full production by the following year.

For the instruction of A.A. Command officers and operators in the use of S.L.C., a school was started at Walkford.

This is the type of work which has been done actually within our own Borough! Any one could write for hours about the way these wizards of Somerford have solved problems. They produced a device for picking up German night bombers; but not our own night fighters. They introduced the automatic ranging of guns to fire at and hit invisible and moving targets. They manufactured "Rebecca-Eureka," a Radar beacon which is dropped in enemy country and guides airborne forces to the landing point, a device used with success in Normandy, at Arnhem and on the Rhine. They produced a completely new system of radio telephone, giving much greater security than with ordinary types of field radio telephones.

THE WORK OF S.R.D.E.

This last-mentioned equipment, produced by S.R.D.E., was used during the invasion of Europe and was, undoubtedly, one of the principal factors enabling the Allied advance towards Germany to be maintained at such an extraordinarily rapid rate. Field Marshal Montgomery always insisted that the terminal station for this system of land communication should be kept-up close to his headquarters. It was a vast improvement on the old land-lines.

S.R.D.E. has also produced, in Christchurch, a method of laying field cables from the air. And so the story could go on. So we hope, the process of discovery will go on. It seems

likely that the work of S.R.D.E. will be continued at Christchurch for some time at any rate. We understand that the personnel at the Malvern Establishment —now known as R.R.D.E. (Radar Research and Development Establishment)—have been told that they will be staying there for three years.

AN UNSOLVED PROBLEM.

But there is one problem, it may be said, which all the brains of Somerford have not been able to solve. They can't find enough house room for their workers. This has been one of the most pressing and urgent problems they have had to face in Christchurch. and it is a credit to their workers that they have put up with so much in the matter of housing.

This, however, is another story. For the moment it can be said, the Somerford scientists are continuing their discoveries and perfecting their knowledge. It is for mankind at large to decide that the products their amazing abilities shall henceforth be diverted and devoted to the peaceful service of men with as much success as they have achieved in the prosecution of war.

BRIEFLY, WHAT "SOMERFORD" HAS DONE

Summarising the activities of the Experimental Establishments at Somerford, they fall under five main headings. They have:—

- (1) Made important new scientific discoveries in the realm of air defence and signals research.**
- (2) Experimented in new applications of the principles of radio direction finding and ranging, and the perfection of applications already known.**
- (3) Acted as the technical planning and driving power behind the production of Radar equipment in in hundreds of factories throughout England where, eventually, 250,000 people were engaged on its manufacture.**
- (4) Co-operated with American scientists working towards similar goals, and sent out much valuable equipment to America and Russia.**
- (5) Collected, or sent experts out to examine enemy Radar captured during the war, or discovered since the end of hostilities in Europe.**

HISTORY OF 'SOMERFORD'

THE main buildings put up by the Government at Somerford were not quite finished before the outbreak of war with Germany. It was intended that they should be the permanent peace time home of the Air Defence Experimental Establishment.

But the war complicated this, as many other matters.

It was at the end of August, 1939, that part of A.D.E.E., which had been working at Bawdsey since 1937, moved to Christchurch. Their work on Radar had actually begun at Orford in 1934 and 1935. Experiments with searchlights had occupied a section of the Establishment at Biggin Hill, Kent, since 1926 and, in early 1940, this section also moved to Christchurch. At that time a Dr. D. H. Black was the civilian superintendent and Col. C. H. Silvester Evans, O.B.E. (later Brigadier) was Commandant. During 1941 the name of the establishment was changed to A.D.R.D.E. and Professor J. D. Cockcroft, F.R.S. (who has most recently been in the news in connection with the atomic bomb) was appointed Chief Superintendent.

THE MOVE TO MALVERN.

In May, 1942, the greater part of A.D.R.D.E. moved from Christchurch to Malvern.

The story behind that move is that a Commando raid had been made against an important radio location installation on the French coast near Havre. The authorities considered it highly probable that retaliation Commando raids would be made on Somerford.

Work of such vital importance was then being carried out in Christchurch that this was moved inland to Malvern where it was joined by the Telecommunications Research Establishment from Swanage.

Most of the workshop personnel remained in Christchurch until new works were ready at Malvern: but what was destined to be an extremely productive section of the work (Coast Defence and Artillery) remained at Steamer Point, Friars Cliff. The Christchurch workshops were only a small production unit until the early summer of 1943, when S.R.D.E. arrived. As the Signals Experimental Establishment they had done their work on Woolwich Common, London, since the middle of the last war. Early in this war part of the work was evacuated to Horsham; but the two sections were reunited at Christchurch. A Col. G. Bell brought the Establishment to Christchurch and remained its Chief Superintendent until April, 1944.

In the meantime Professor Cockcroft was amongst those moved from Christchurch to Malvern, where he remained in charge until last year. He has very recently been succeeded by a new Chief Superintendent, Dr. O. G. Sutton.

THE PRESENT CHIEF.

Col. G.-W. Raby, C.B.E., who is the present Chief Superintendent at Somerford, was with the Army in France at the beginning of the war and made his own escape to this country after Dunkirk. He was Superintending Engineer to A.D.E.E. in 1940, moved to Malvern and in the autumn of last year returned to Christchurch as the Chief Superintendent of S.R.D.E.

Mr. H. W. Forshaw, O.B.E., the present Superintendent at Somerford, was a principal scientific officer first at Bawdsey. He was in charge of the radio part of A.D.E.E. and A.D.R.D.E. until early 1943, when he became Acting-Superintendent under Dr. Cockcroft; and was brought back to Christchurch in October, 1943, as Superintendent.

Col. H. Leigh, who is now Commandant at Somerford, came to Christchurch early in 1940 as Deputy Commandant of A.D.E.E. He went to Malvern, and returned to Christchurch at the end of 1943.