

THE STORY OF RADAR

Another Big BBC "Documentary"

AT 7.30 p.m. on Monday, November 12, 2YA will broadcast another of the BBC's big documentary programmes, this time on the story of radar. Like "The Harbour Called Mulberry" it was written and produced by Cecil McGivern, and it runs for 90 minutes. It is told, as "The Harbour Called Mulberry" was told, in narration and dramatised scenes, with some of the purely visual ideas that are essential to the technical description cunningly transmuted into sound effects. And there is good incidental music, written and conducted by Walter Goehr.

When it was about to be broadcast by the BBC on August 17, the "Radio Times" asked Cecil McGivern to tell listeners about it in his own words, so we reprint his article here for listeners who will hear "Radar" in New Zealand. (The programme will, of course, go round the other stations in turn so that everyone will be able to hear it properly.)

IT has been my privilege, during the past six years, to write and produce on the air the stories of many of the biggest events of the war—*The Battle of Britain*, *The First One Thousand* (the raid on Cologne), *The Harbour Called Mulberry* are among them. The story of radar, or radio-location as it is popularly known in Britain, is, I think, the biggest and most thrilling story of them all.

In the early days of the war, Hitler, broadcasting threats of the awful fate coming to Britain, talked of a secret weapon against which there was no answer. We laughed at him, but many of us, knowing the might and ability of the German nation at war, felt a shiver of fear. Yet, while Hitler was screaming at us there was in these islands the greatest of all secret weapons, a weapon which even in its infancy had savagely punished the enemy, a weapon which was to grow to be a terrible instrument of destruction.

Dramatising Mathematics

The science and application of radar have greatly influenced the strategy and tactics of the three fighting services. It has enabled the Royal Navy to blow into fragments enemy battleships over the horizon. With it, Army gunners blew V1's out of the sky in scores without seeing them. With it, the R.A.F. devastated sections of German towns invisible 20,000 feet below them. That story is

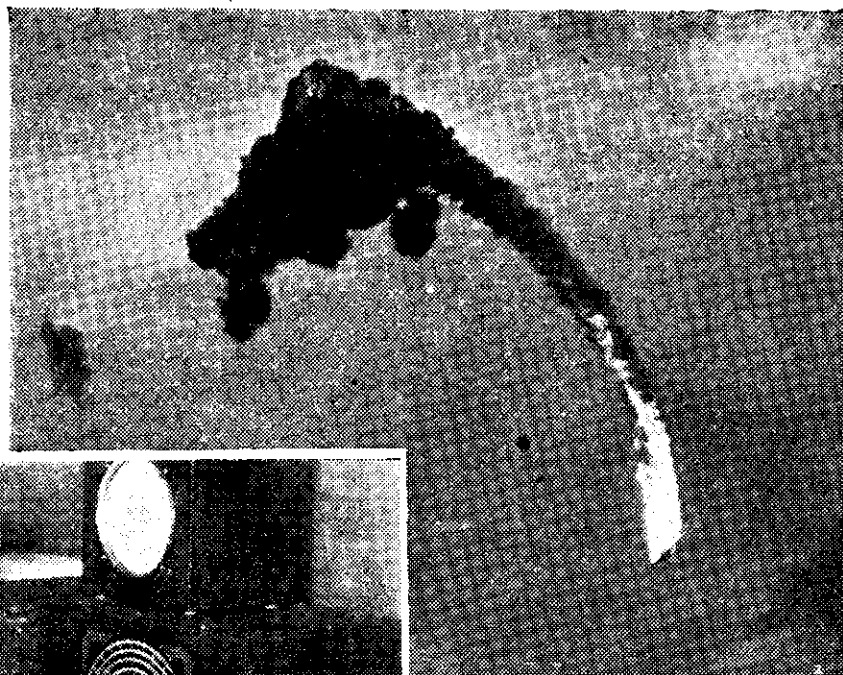
too big to be covered even by a 90-minute broadcast. So Monday's programme deals only with radar and the R.A.F., for whom the science of radio-location began, and in whose hands it became the greatest scourge the enemy suffered.

But if radar is the most thrilling story, it is the most difficult I, personally, have had to shape into a radio feature programme. It is concerned with complicated mathematical calculations and formulae, with the harnessing of radio beams so that they perform involved actions in space, and arranging

that the results of those actions should be shown on the screen of a cathode-ray tube.

Watching and Listening

For five weeks I wandered about the South of England picking up the knowledge out of which I had to compile a radio script. Trying desperately to follow their scribbled figures and diagrams, I listened to the brilliant scientists of the Telecommunications Research Establishment.



Above: A Japanese dive-bomber crashing in flames. Radar instruments made it a bull's eye. Left: Radio location training for the N.Z.W.A.A.F.

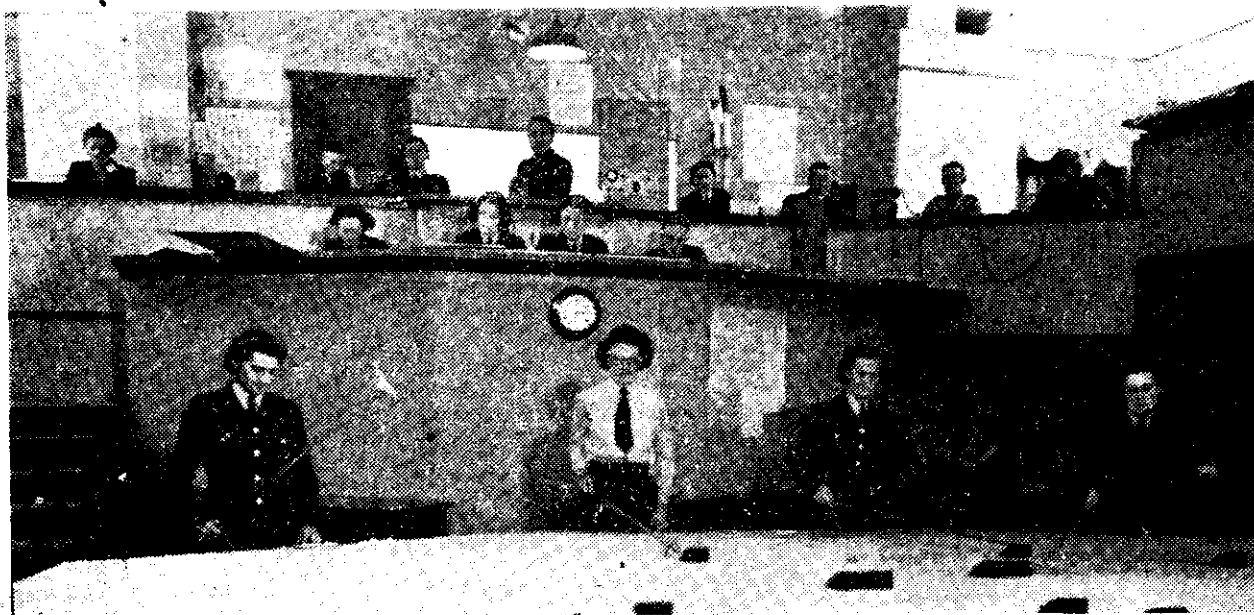


I listened to enthusiastic R.A.F. officers as they told me how they had applied and used the products of the minds of the boffins (their name for radar scientists), very much more concerned with the wonder of pilots turned scientists than with the facts and figures they were explaining.

I listened to clear-headed fluent-tongued Waafs describing the functions of the strange gear they watched over, grasping only half of what they were saying, but appreciating to the full and admiring their enthusiasm for their job and their grasp of its detail. I watched their practised hands manipulating the delicate instruments and remembered that those hands had remained as steady five years ago when German aircraft had showered bombs on their small radio-location huts.

I watched a navigator in a Lancaster fix his exact position in space by manipulating blips of green light on a cathode-ray tube. I turned and looked into the instruments in front of the bomb-aimer. The earth was 24,000 feet below us, hidden under thick layers of cloud. Yet I saw the coastline and sea that formed the Wash, and the towns near it. I remembered, too, as I watched, that the gloved hands gently touching knobs and switches had been as cool and careful in the skies over Germany while flak jerked the heavy aircraft and searchlights slid over the huge body and the air was noisy with machine-guns snarling at diving night-fighters.

I flew in a Beaufighter with a famous pilot and his observer. I watched them seek and find a target aircraft hidden in the clouds, the observer's eyes fixed on a moving smear of light on his radar instruments, the pilot's skilful fingers throwing his aircraft about the skies until, filling his gun-sights, was the "enemy." I remembered as I watched that night after night these two had



An R.N.Z.A.F. operations room with W.A.A.F.'s receiving training in radio location

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