BAWDSEY RADAR
A world first

Sir Robert Cockburn - Memorial Address for Sir Robert Watson-Watt 1974

Memorial Address for Sir Robert Watson-Watt given by Sir Robert Cockburn at the Royal Air Force Church of St Clement Danes on 13th February 1974.

Today we honour the memory of Sir Robert Watson-Watt, FRS, US Medal for Merit. For those who worked with him, it is difficult to realise that nearly forty years have passed since he unleashed the ferment of invention, imagination, and initiative which gave us an overwhelming superiority in the new technique of radar. More than any other single endeavour, it was radar that brought us through the war to ultimate victory.

Of the Armed Services the Royal Air Force was most deeply in his debt. What a roll call of achievements they shared. The Home Chain and the Battle of Britain; AI and the night fighters; ASV and the Battle of the Bay; H2S, Gee and Oboe which brought down the Nemesis of Bomber Command, and finally the invasion of Europe when all the resources of the new radar Establishments were combined to blind, confuse, and overwhelm, the enemy.

To a younger generation it may seem incredible that it took so long to crystallise out a concept which now seems obvious. The techniques had been available for at least ten years, and our vulnerability to air attack was agonisingly apparent. But in 1935 the elaborate organisations of the Ministry of Defence did not exist. It needed the energy and vision of one man to bring together the problem and its solution.

Watson-Watts earlier work at Slough on atmospherics and thunderstorms gave him a thorough understanding of the cathode ray tube, the directional aerial, and pulse technique – the three essential components of radar. His recruitment of the radio listener for the observation of atmospherics with the Master of the King's Music unwittingly acting as a calibrated time base showed a genius for improvisation which characterised all his work. His famous memorandum to the Tizard Committee on "The Detection and Location of Aircraft by Radio Methods" was a model of professional appraisal, the scientific basis of the proposal set out with clarity, the performance calculated, alternatives discussed. His critical demonstration using the 50 meter transmission from Daventry was a model of experimental economy.

But he gave much more than his expertise. He knew that there was not a moment to lose. He wrote and talked, badgered arid wheedled to get the resources of Industry, the Universities, and the Services turned on to the many applications he so clearly foresaw. In the event our air defences were ready in 1940 but only by the narrowest of margins. In fact the stakes were higher than we realised, for we discovered during the first months of the war that the Germans had radar systems at least as sophisticated as our own. Within two years, however, we had gained a superiority in design and application which we maintained for the rest of the war. The Germans were unable to match the huge momentum which we had built up, or the intimacy we had created between the Scientists and the Services.

Operational research, in which we led the world, was born of radar and was the third of Sir Robert's "Three Steps to Victory". Young scientists, the 'boffins', flew with the airmen, went to sea in His Majesty's ships, and visited the active units of the Army. They identified and defined their problems, and ensured that the black boxes developed in the quietness of the laboratory were acceptable to harassed men in the din and fog of war.

Sir Robert inevitably became immersed in the many problems of planning, management, and organisation inseparable from such a great enterprise. But he never lost touch with the young men in the research establishments. He could always find time to escape from Whitehall, usually over the weekends, to enjoy the torrent of ideas which poured out at the Sunday Soviets. When the time came to apportion credit he was meticulous in recording the contributions of the men around him, and in acknowledging his own debt to his scientific predecessors.

It is no secret chat he was never at ease in the corridors of Whitehall and with the war over and a programme of work for civil aviation set up he left the Civil Service to become a consultant of international standing. He travelled widely, and although an alien and a civilian, was invited by the American government to report on the defence of the Pacific Coast.

At home the foundations had been laid for a great surge forward in technology. As Wattie's young men dispersed into Industry and the Universities they took with them their experience of pulse technique. Atomic energy, space, communications, and the vast field of computers have all benefited enormously from the equipment and methods pioneered in the war years; and civil and military radar now has a precision and reliability undreamt of thirty years ago.

Like many other Scots, Wattie was a complex character. Essentially a shy man, he was more at home with technology than with people. In public he could be very persistent in arguing his cause; in private he was quiet, even taciturn. He would go to great lengths to help a colleague but did not make friends easily. To those who penetrated his shyness he was warm-hearted, sensitive, endearing. He never really came to terms with the Juggernaut he had created, and when the task was completed and his duty done, he returned with relief to the quietude of the laboratory.

It is not given to many to be the right man in the right place at the right time. Watson-Watt had this good fortune. He rose to the challenge putting everything he had into the job, accepting responsibilities that would have made a lesser man blench. His two years at Bawdsey Manor were the peak of his career and earned him the gratitude of the nation. We shall always remember with affection the man who set us on the road to victory, Sir Robert Watson-Watt, the father of radar.

If you spent time at Bawdsey Radar Station or have stories to tell about events in and around the station please do get in touch with us!