

Obituary

Dr E.G. Bowen 1911-1991

Born in Wales in 1911 and graduating from the University of Wales, Dr Bowen worked for his Ph.D. at the University of London under Professor Appleton of ionospheric fame. He became better known by the traditional nickname for a Welshman of 'Taffy' than by his given names of Edward George. In April 1935 he joined the Radio Research Station and was immediately involved with the development of radar. The following year he started to design and build radar sets for use on aircraft and the success of this project is now well known. His part in the development of radar and its great impact on the course of the war was later publicly acknowledged by the British Government. In 1940 he went to the United States with a mission charged with sharing all information with the Americans and setting up research and manufacture in that country. The friendships made during that time turned out to be very valuable many years later when finance was required for a giant radio telescope.

In 1943 CSIR requested his services with the Australian war effort and he commenced duties at the Radiophysics Laboratory in January 1944. Two years later he became Chief of the Division and held the post for 25 years. Following his retirement in 1971, he became Scientific Liaison Officer in Washington.

'Dynamic' is probably the best single word to describe Taffy, both in actions and ideas. He was either inspiring or alarming, depending on your view of how science should be conducted. He was always ready to try something new (and was always convinced that it would be, as he put it, 'a piece of cake') and became embroiled in a great deal of controversy over many of his ideas. For example, the giant radio telescope at Parkes which is so well known was born in controversy, several of his senior scientists being convinced that interferometers would be more productive. He had a profound contempt (sometimes well justified) for those who said that something couldn't be done and for statisticians who said that something was not statistically significant.

Rain-making was a controversial new idea which Bowen took up with enthusiasm following the initial demonstration in the USA by Langmuir and Schaefer in 1946. The first attempt in February 1947 appeared so successful that a great

effort went into the work and took up a large part of the activities of the Radiophysics Division until split off as a separate Division following Taffy's retirement. The first year in two major experiments in the Snowy Mountains and New England appeared so successful that many optimistic statements were made. However the statistical assessments of these and other experiments showed apparently declining success each year, leading Bowen to propose that there was a 'memory effect' of seeding events which caused the statistics to underestimate the effects of seeding. This seemed so improbable that no one believed it. Like so many of his intuitive ideas, this one also now appears as though it might have been right.

One of the most controversial theories in meteorology was Taffy's 'meteor dust' theory. He proposed that annually recurring meteor showers seeded clouds to increase rain 30 days later. Statisticians said that the anomalies were not real (though one from the Australian Bureau of Meteorology, who set out to demonstrate this, later had to recant as far as the east coast of Australia was concerned) while physicists pointed out that there was no way there could be effects a sharp 30 days later. There were, however, some interesting predictions concerning meteor streams that appear to have been verified.

Another theory was that the rainfall in Sydney depends on the phase of the moon. Try telling that one to a meteorologist! (It happens to be true and easily demonstrable but is outside the canon of scientific belief.)

Following his return from Washington, Taffy worked extensively on a scheme for making long-term predictions of rainfall in Australia. The economic consequences of predicting three years in advance with even a few per cent better accuracy than guesswork are such that this was a very important aim. Unfortunately neither the methods nor an assessment of their value has been made public.

With Taffy's death we have lost a colourful and forceful influence on Australian science and scientists. A more orthodox leader might have made life easier for some of us, but would probably not have inspired as much interest, excitement or achievement.