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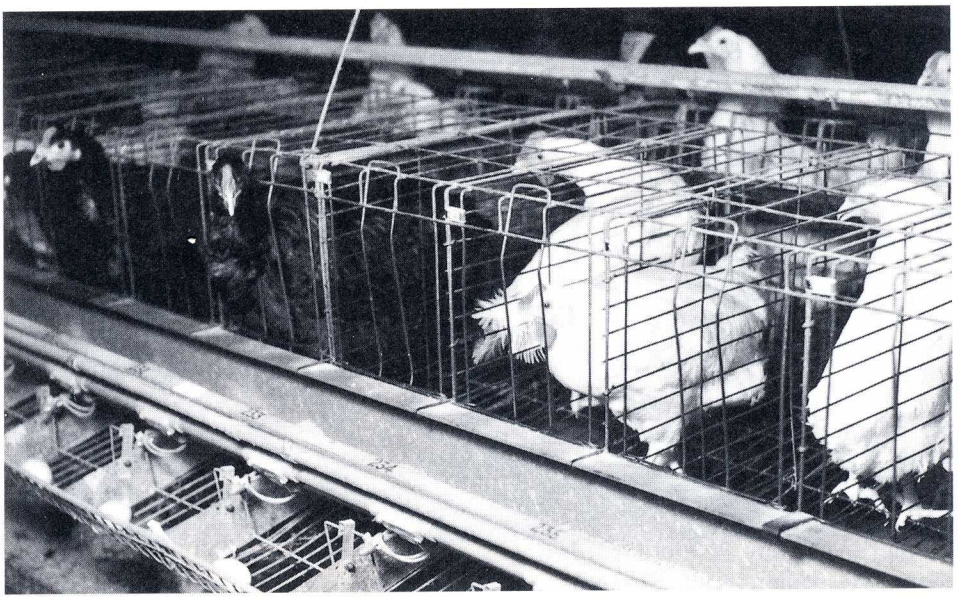

Title 129

The **Eggotron** is a device to record the effectiveness of selective breeding of hens by measuring the time-interval between eggs laid and also the time of day of laying. In the eggotron each egg laid is electronically registered, and the interval between eggs was reduced from 28 to 20 hours by various means. The Research was stopped 1995. *Courtesy CSIRO Livestock Industries, Australia.*

The first thing we learnt about Australian science on Monday morning, 7 March 1966, was the existence of CSIRO, the Commonwealth Scientific and Industrial Research Organisation. It is the federal government agency responsible for financing not only numerous great research institutes in Australia, ranging from radiophysics to animal genetics, some of which we were to visit, but also the expenses of our tour. The history of CSIRO and its precursors extends over many decades and its world-wide reputation is of the highest in the international scientific community, inspite of many attacks by Australian politicians, eager to claim preference for their own local interests.

The Commonwealth Fisheries and Oceanographic Laboratories in Cronulla, near Sydney, was the first CSIRO institute we saw. There we learnt of a novel theory to help rain prediction for the then drought-stricken New South Wales. It consisted in dropping hundreds of thermometers, the bathythermographs, into the ocean to a depth of about 300 m. It was hoped to measure rapid temperature increases of the ocean waters which in turn would predict increased rainfall. It was a long-term project over several years, and my story appeared a month later in the *Daily Telegraph.*

Later in the day we met Dr Edward G. (Taffy) Bowen of world fame, as he pioneered Australian radioastronomy many years ago. He was telling us at his CSIRO Cloud Physics Laboratory of a conventional aspect of rain-making, namely cloud-seeding, which had been investigated in Australia with many carefully controlled experiments since 1947. These confirmed similar work in America and Israel, and showed that success can be achieved in the first year, in Sydney an increase of 27 %, but that in subsequent years, due to a still unknown factor, the increase in rain is much less and during the fourth year it was only 3 %. The search for this factor was then his main work. [For attempts at rain making in India see Title 122.]

At the CSIRO Division of Animal Genetics, we had the pleasure of getting to know an English biologist, Dr Jim M. Rendel, a Fellow, and later Vice-President, of the Australian Academy of Science. His FAA is equivalent to the FRS of the Royal Society in London. When we met him at Epping, near Sydney, his main research work, based on a new genetic theory, was devoted to increasing the egg production of chickens in what he called an 'eggotron'.

By keeping his chickens in continuous daylight, he had bred a new strain of Leghorn which in the sixth generation had produced a significantly higher egg output. His eggotron was a fully automatic installation with continuous fluorescent light, with automatic feeding and water supply as well as soft jazz music playing non-stop. When an egg is laid and rolls down a gentle slope, it triggers a switch for recording this event for computer analysis.

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