



Originally he had his own scientific instruments firm—Cawkell Research and Electronics Ltd—which among other jobs provided much of the equipment of this type for the nuclear fusion projects at Harwell. He used an edge-notched card system of his own design for the classification and retrieval of electronics information. Cawkell developed what he believes was the first instrument for storing television pictures, using a cathode ray storage tube, and became interested in the work on information theory done by Professor Colin Cherry and his team at Imperial College when he consulted Cherry about it.

Meanwhile he had sold his company to a large electronics group, and though he recommended to them that they should make practical use of these ideas by producing apparatus for "piped television", he soon realized that he was no longer his own boss, and the idea was rejected. What Cawkell was planning to do was to send television pictures over the public telephone network, using some of the results of Cherry's team, concentrating most of the expensive data-compressing equipment at the transmitting end and keeping the receiver extremely simple. He points out that this is just what Bell in the US and other companies have now done with their video-type telephones.

Finding himself increasingly out of tune with the feelings of the large group, and being a man oriented towards research and development,

he left and did some consultancy work on his own for a while, including some for ISI. He met Dr Eugene Garfield, ISI's president, and joined the firm in 1967.

In the course of his job he has carried out some delving into scientific history with the aid of the citation index. For example, by tracing back references to Gregor Mendel's experiments he has discovered references showing that Darwin must have known about Mendel's work through Professor H. Hoffman, professor of botany at Giessen. Darwin was a friend of Hoffman, who was no stranger to Mendel's work, and indeed in one paper cited it five times. Darwin also possessed W. O. Focke's famous book on heredity, of 1881, where Mendel was quoted 18 times. For some reason Darwin must have chosen to ignore it. Nor was Mendel's work altogether buried for 40 years: Cawkell finds that it was described in the *Encyclopaedia Britannica* for 1881-85—hardly an obscure journal—and other scientific articles about that time.

This was not the first time that Cawkell has spoken at the Royal Institution. Early in 1969 he gave a talk to Professor Porter and other eminent researchers on literature-searching on the subject of flash photolysis. The outcome was that ISI presented the Royal Institution with a complete set of the indexes, starting with the first one in 1961, which is kept up to date on a quarterly basis.

1. Anonymous. Information detective. *New Scientist* 45(687):274-5, February 5, 1970.