

Marconi Instruments : 1962

INTRODUCTION

The 'winkling out' process while I was at the Cavendish was not disclosed to me until just before I left Marconi Instruments (M.I.); when I took up my M.I. appointment I was determined to forget the puzzling events of the previous years and make a go of my new job. Soon, however, there were incidents, some pleasurable and others disquieting, very much out of keeping with small-company politics.

Some years ago I wrote a detailed record of my life while at M.I., well supported by embedded documentary evidence. However, because I was involved in a number of organisations and the style of management disregarded boundaries between them, presenting events in all of them in chronological order made the text rather turgid and greatly inhibited understanding many of the unusual events which occurred during my four turbulent years at the Company. With this in mind I have curtailed in the following account the technical and managerial content of my job and have emphasised episodes which illustrate the unusual features which followed on from the 'winkling out'. Links to similar events which indicate 'system' are mentioned and indications are given of future developments. I have also drawn on my present-day understanding of what was occurring at the time to make brief comments by way of elucidation.

STARTING AT M.I.

On Monday 1st January 1962 I started at Marconi Instruments Limited, St. Albans, Hertfordshire, an autonomous subsidiary of Marconi Wireless Telegraph (MWT) at Chelmsford. MWT was owned by English Electric, which employed 80000 people worldwide and had a turnover of approximately £250m. At about £4m turnover Marconi Instruments was relatively small in size but progressive in outlook. As Chief of Advanced Development I had the job of building up a research and advanced development team to inject new ideas into the mainstream of product development. My starting salary was £2500 p.a. Multiplying the financial figures by 20 gives some idea of present-day equivalents.

Heavy snow prevented me making the 50-mile journey from Cambridge by car to take up my appointment in St. Albans but by trudging along treacherous roads and going by a circuitous rail and bus route I managed to arrive at Marconi Instruments in time for lunch. From a paper bought on the way I learnt that my boss up to the day before, Nevill Mott, had received a knighthood.



On arrival I reported to the Managing Director, R. E. Burnett who took me to lunch in a pleasant annexe to the works canteen. Thus I had the first of my regular free waitress-served lunches in what was called the Managing Director's Dining Room, places at table being allocated daily to senior managers and visitors by the M.D. Biographical Details of R.E. Burnett obtained from the Marconi archives at the Bodleian Library in Oxford are:-



Raymond Edward Burnett, born 1st April 1915, graduated in Physics from St. Peter's College, Oxford, and had then taught Physics before joining the RAF in 1940, reaching the rank of Wing Commander. He was a Technical Civil Servant from 1946 to 1950. He then joined Marconi Wireless Telegraph. From 1950 to 1956 he was Manager of Education and Personnel (described as Principal of Marconi College in his obituary). He was then appointed General Manager of Marconi Instruments, becoming Managing Director from 1959.

He had also attended a postgraduate course in the USA, was active in SIMA (Scientific Instrument Manufacturers' Association) and a Governor of Northampton College of Advanced Technology. In addition he was a J.P. on the St. Albans Bench.

I was made very welcome at the Company. One of the first discussions I was asked to enter into was about a projected tour of the United States. I had not crossed the Atlantic before and I was greatly looking forward to it. For the first two nights at St. Albans I stayed at nearby hotels, after which on most Monday to Thursday nights for the next 9 months I was accommodated at the Pré Hotel, on the outskirts of St. Albans, all paid for by the Company. Coffee for senior managers was served each day in a small conference room close to the Managing Director's office. In this way most of the managers, including the M.D., met up each day they were on site so there were plenty of opportunities for conversation.

The rooms allocated for my office & laboratory were in a single-storey prefab building. They were rather decrepit and uncomfortable but they were to be put in order as soon as possible. Experience at the Cavendish showed me how much conditions could be improved. Soon a modest desk arrived so I had a base from which I could operate. I was full of hope for Ray Burnett had given me a £30,000 budget and an open brief.

INTRODUCING MY M.I. COLLEAGUES

I soon attended my first meeting of the Product Policy Committee (PPC), which consisted of:-

R.E. (Ray) Burnett	REB	Managing Director	Committee Chairman.
E. (unknown) Garthwaite	E.G.	Chief Engineer.	
R. (Ramsey) Chaffey	R.C.	Commercial Manager	
S.G. (Mick) Spooner	M.S.	Works Manager	
A.G. (Arthur) Wray	AGW	Deputy Chief Engineer	
H.V. (Harold) Beck	HVB	Chief of Advanced Development	
W.A.G. (Bill) Brian	WAGB	Company Secretary	Committee Secretary

The main purpose of the PPC was to enable top managers to control the progress of each new product from idea stage to its introduction to the market and to monitor the development of existing products. Over the next 4 years there were about 60 meetings of the PPC; there will be no reference to these in what follows except where my records show that an item or event of personal significance arose.

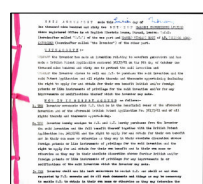
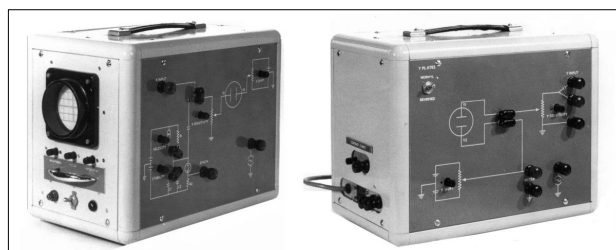
I was introduced to all the development engineers at a meeting called to explain a scheme whereby technical enquiries from customers were to be filtered by a Section in the Commercial Department. The scheme had been devised by Jim Wickens, formerly a lecturer in Management at Hatfield Technical College who had joined the company as P.A. to R.E. Burnett. A local Labour Party officer (named Landman?) was consultant to R.E. Burnett and had a small office next to his.

I started work straight away on some technical aspects of my job and at the same time set about staffing the Advanced Development Department. Three weeks after I started at M.I. I recruited a 1st Class Honours physicist. Throughout 1962 I was busy interviewing and recruiting graduates.

CAVENDISH 'LEFTOVERS'

In the early days at M.I., I manned the Cavendish Laboratory stand at the Physical Society exhibition – I had been responsible for getting the Cavendish involved and it had been agreed that I would honour past commitments.

Around this time I attended a meeting of the Science Masters Association on behalf of another Company. I was negotiating a consulting and licence agreement with Scientific Teaching Apparatus Limited (STAL), concerning educational equipment I had designed for the Cavendish Laboratory practical classes. The equipment did not conflict with the interests of M.I. and Ray Burnett had agreed to the STAL arrangement. STAL was an agent for Leybold and I was introduced to a Dr. Hecht of that Company.



There was one other 'leftover' from the Cavendish Laboratory. During negotiations I offered Marconi Instruments a provisional patent I had taken out and the company agreed to buy it outright for £500. I heard later that it had enabled MWT to make up its numbers in a regular exchange of patents with the Radio Corporation of America (RCA).

AT ODDS WITH THE CHIEF ENGINEER

Early on I had a meeting with the Chief Engineer, E. Garthwaite, who had long empirical experience in telecommunications measurement and persistence in finding solutions to technical problems. He made it

clear that he was not greatly enamoured with qualified people. In discussing my budget he remarked that I needn't worry unduly about the financial side of my job. He also advised me to live up to the hilt on borrowed money. This was totally at variance with the determination of myself and Sheila to pay in cash out of income, the one exception being to acquire a house through a mortgage arrangement.

I soon fell foul of E. Garthwaite - he was not a forename person. Following discussions with him and others I drew up Terms of Reference for my job as Chief of Advanced Development. Ray Burnett agreed my proposals and asked E. Garthwaite to circulate them but he refused to do so.

Terms of Reference - for circulation if approved

CHIEF OF RESEARCH AND ADVANCED DEVELOPMENT

To establish and maintain a Research and Advanced Development Division within an approved budget with the basic aim of putting M.I. ahead of competitors in the marketing of profitable instruments based on new ideas, techniques, devices etc.

Some means to this end are:-

- 1 To keep informed of developments in basic principles, characteristics and applications of devices, techniques, instruments etc., by extracting information from journals, keeping in contact with Government, educational, professional and industrial establishments, attending lectures, symposia, conferences etc.
2. To initiate and supervise study projects both within the Company and outside (e.g. University or C.A.T.) to determine the applicability of new devices, techniques, systems etc. to M.I. products, with the emphasis on the long-term interests of the Company rather than the short-term.
3. To disseminate the information and the results of the study projects in the most appropriate way and to assess and advise on the likely long-term effects on Company policy.
4. To gather and where possible apply any information available on the subject of creativity in an industrial environment and to increase the flow of ideas, innovations and inventions by personal contributions and the stimulation of others.
5. To consider those aspects of the initial and revision training of engineers that have a direct bearing on the basic aim and collaborate with the Chief Engineer in taking action as appropriate.

H.V. BECK.
6.3.62.

At a Product Policy Committee meeting around the same time E. Garthwaite vetoed my 1st and 2nd product proposals. He did not advance arguments why they should be rejected - the Chief Engineer had spoken and that was that. Ray Burnett made no comment.

COMMUNICATION

01 Meanwhile I was getting to know the foibles of colleagues at the top. Thus I became aware of Ray Burnett's technique of communicating indirectly. I had been to see him in his office. I was wearing a lightish blue suit of not very good material. As I was about to leave his office he slowly, silently and with an expression of disdain looked me up and down. I took the hint and bought myself a formal suit which I wore from then on. I later realised REB was obsessed with indirect communication and came to the conclusion that it had been a mistake to respond so quickly to the hint.

02 About a month after I joined M.I. I had my first one-to-one meeting with S.G. (Mick) Spooner, the Works Manager, in his office. He told me straight away that his communications set-up was such that he had known within seconds that I had walked through part of his production area some days before.

03 Later in the meeting he surprised me by remarking, apropos of nothing, about the whereabouts of Billy Thorburn, a music-hall pianist with whom my family was connected - my father was his first piano teacher. I was not reticent about mentioning this to friends and neighbours but I certainly hadn't told anyone at M.I. At the time I considered the mentioning of the name as an extraordinary coincidence.

04 Around this time there occurred an event that shed a new light on R.E. Burnett. We had happened to meet in a corridor and had just concluded a brief conversation about staff recruitment when Ray Burnett said quietly and deliberately, apropos of nothing we had discussed, that the neighbours of my predecessor had reported adversely on his behaviour at his home. Having made this extraordinary statement the Managing Director walked quickly away, thus deliberately preventing any follow-up on my part. Just after this communication Mick Spooner told me that Arthur Wray's neighbours thought very highly of him. This was not the only time Ray Burnett and Mick Spooner made extraordinary remarks on the same topic close together in time. It indicated that they were quite close in their discussions about me. Did M.I. have a habit of taken soundings of the neighbours of its senior managers? At the time it seemed to me that REB's one-way communication was intended to instil disquiet or fear.

VISITS

Soon after arrival at M.I. I was invited to visit other parts of the Marconi empire. Thus in mid-February 1962 I paid my first visit to Marconi Wireless Telegraph at Chelmsford. It was probably on this occasion that I was taken to an empty office in which there were two desks. It was explained that one was for the Chief Engineer and the other had been for the Engineer-in-Chief! The C.E.'s post was vacant and the E-i-C's had remained unfilled from the time Maurice Wright, father of MI5's Peter Wright, had left the company. Years later, when I had worked out what was happening, I recalled the occasion when George Bosworth had gone out of his way to show me Phillip Bowden's desk in Eric Eastwood's office at English Electric House.

Two weeks later I visited Marconi College at Chelmsford and was entertained to lunch by Roland Kemp, who had succeeded Ray Burnett as its Principal. Next, I was given an extensive tour of Great Baddow, in the course of which I had my first meeting with Dr. I.G. (Ian) Cressell who was head of the semiconductor section.

Soon it was in connection with M.I. and Marconi projects that I was visiting the Chelmsford works, Great Baddow, the Maritime Division and the Writtle site. One occasion I remember with particular pleasure was when I went to Marconi, Chelmsford, to see Mr. Morcom, a senior engineer. Morcom commented favourably on my paper *Two Practical-Class Waveform Generators*, which had just been published in *Electronic Engineering*. His commendation made me feel my intense struggle with the paper's rotating vectors explanation of the behaviour of non-linear circuits had been worthwhile.

Visits to and from companies, Government departments and Educational institutions were part of the way of life at senior level in Industry. I also attended Exhibitions and Symposia. In addition, at Ray Burnett's suggestion, I paid a visit to Northampton College of which he was a Governor.

There were many opportunities for networking within the instrument industry. Thus I attended the Scientific Instruments Research Association (SIRA) Luncheon & AGM. A SIRA Members conference on Research at Chislehurst provided further opportunities and a different set of contacts came from the Scientific Instrument Manufacturers' Association (SIMA) convention in Eastbourne.

USA TOUR

On Saturday 17 March 1962 I started a 4-week tour of the U.S.A. Arthur Wray was with me for three of the weeks. The weekday itinerary was organised by M.I. - R.E. Burnett had a hand in arranging most of the visits. Travel and accommodation arrangements were left to Arthur and myself. Probably one of the reasons for the joint tour was to enable Arthur and I to get to know one another but I don't think either of us made much progress.

In addition to attending the East Coast Electronics Exhibition our business itinerary in New York was to visit the Marconi offices (where I first encountered Max Impey, the Marconi M.D.'s nephew) and the M.I. Service set-up. We then spent a day at General Radio, Boston - I hadn't realised how much networking took place between UK top managers and their opposite numbers in overseas competitors - we weren't told what new products were in the pipeline but we were made welcome in every other way. I then visited RCA at Sommerville.

On Sunday 25 March 1962 there was Sales meeting at 6 p.m. then dinner for all the M.I. people and Agents who had gathered for the Exhibition, at which M.I. was exhibiting. The gathering was reported in the June 1962 issue of Marconi House Magazine:-

M.I. Sales in the U.S.A.



M.I. sales throughout the U.S.A. are in the hands of the men who attended the annual sales meeting in New York on the evening before the opening of the I.R.E. exhibition. R. J. Bailey, seated second from left, Manager, U.S.A., said of the exhibition, 'Greater interest was shown in our display than ever before. This augurs well for our future in the American market.' Visitors from St. Albans at this meeting were A. G. Wray, left, Deputy Chief Engineer, and H. V. Beck, fourth from left, Chief of Advance Development, while members of the U.S.A. staff seconded from St. Albans are W. Oliver, Service Manager; K. Elkins, Sales; with B. Whitlock and V. O'Herlihy, Service; B. Morris and J. Robinson, Sales Engineers

I covered the Exhibition intensively in four half-days and attended an afternoon of lectures at the Waldorf Astoria. Arthur Wray was a railway enthusiast and, after having our fill of electronics, we went by train to Denver with an overnight stop at Kansas City. We journeyed on to Boulder, Colorado, for a Measurements Conference at the National Bureau of Standards. From there we flew to San Francisco to visit Hewlett Packard at Palo Alto.

At this point Arthur returned home and I visited the Physics Department of the University of California at Berkeley before flying to Portland for the most interesting visit of the tour which was to Tektronix, world leader in CRO manufacture, at Beaverton, Oregon.

Howard Vollum, President of Tektronix, collected me from my hotel in Portland and took me to the plant at Beaverton. He showed me over the factory, greeting everyone we met by their first names. He explained that the company manufactured its own cathode ray tubes. The established cathode ray tube suppliers could not produce tubes with the quality and features required for this key component in a CRO so Tektronix designed and made its own moulded ceramic version with a flat screen on which there was etched a graticule to facilitate measurement. Another factor in the dominant position of Tektronix was that having made a variety of CROs for different applications, a basic carcass was produced along with a range of plug-ins to adapt the carcass to many of the applications. This was a more sophisticated arrangement than the contingency panels I had devised at Chico.

Over lunch Howard Vollum revealed that he owed his success to one person, namely A.E. Kempton, my former colleague at the Cavendish. Apparently he had been Howard Vollum's mentor when they had worked together at the Telecommunications Research Establishment (TRE) at Malvern during the war.

I was greatly impressed that Howard Vollum had retained an intense interest in technical developments. Indeed, in taking me to Seattle airport we were so absorbed in a technical discussion about a new gadget for use on cars that he missed the airport turning on the Freeway and had to go on for miles before he could turn back. I got my onward flight just in time.

At the weekend I visited my sister and family in Vancouver then flew back to the Eastern side of Canada to visit my brother in London, Ontario. From there I called on an M.I. agent in Cleveland, Ohio, followed by a visit to RCA in Philadelphia before returning home via New York.

BACK AT M.I.

On my return to M.I. in St. Albans I ran into more trouble with E. Garthwaite. I had ordered out of my budget an instrument necessary for an agreed project and several weeks later, when I was getting impatient for delivery, I learnt he had not authorised it.

From 27th to 29th June 1962, at Ray Burnett's suggestion, I went to Brussels to attend an American Management Association Seminar on R & D Management. On my return I gave much thought to estimating the time likely to be taken to reach particular stages in the development of a new instrument, writing notes to myself about who could best estimate the time required to complete a project and set targets, the need for an integrating type of mind and the experience needed by graduates in the electronics field. I also covered topics such as the effect of M.I.'s origin as an internal service for production testing, categories of resources required for product evolution, cost reduction and getting instruments designed for use by clots rather than on the assumption that the user had the same love for them as the designer. The production by M.I. of instruments for application outside the telecommunications field was also explored.

In July 1962 I was asked by Ray Burnett to set up a Working Party on future proprietary instruments which could become available for sale in 1965 to 1967 and present a report to the Product Policy Committee. All members of the staff co-operated except the Chief Engineer, E. Garthwaite. The resulting report on *Proprietary Instruments 1965-67*, which for the first time gave an estimate of the business return to be expected for the probable development spend, was considered by the PPC. It was accepted with the request that I look at each product group in more detail, leading to a second report. If there was any outcome from the reports it was in the nature of influence rather effective action.

Also around July 1962, after further consultation I drew up and circulated a paper on the *Basis of Operation and Tentative Programme for Advanced Development*. It incorporated the earlier paper, proposed that *Research* should be added to the title of my Division and made a case for reducing overhead charges for Research & Advanced Development in relation to Engineering. Arthur Wray said somewhat admiringly that he had thought my analysis would show that R & AD should have a higher overhead and that he had been surprised that I had shown the reverse.

ACCOMMODATION

By early March my wife and I had found a house in Harpenden at the drawing board stage (Plot 19, which became No.6, Manland Way), due for completion in late 1962. Rented accommodation became free in South Harpenden when an employee of an English Electric subsidiary was posted to another job and my week-night sojourns at The Pré came to an end by September 1962 when we moved at very short notice into a small rented bungalow in South Harpenden.

Mid-July 1962 saw a major change in the governance of the English Electric Group, when George Horatio Nelson, the 1st Baron Nelson of Stafford and Founder and Chairman of the English Electric Group, died. The Founder was succeeded by his son, Horatio George Nelson, as Chairman of the E.E. Group. This development occasioned some adverse comments from Ray Burnett, who expressed to me his disappointment at the succession, adding that the old guard had carried the day. I did not realise until years later, when I researched the 'winkling out' process, how critical the passing of the 1st Lord Nelson of Stafford was to my career.

TOUR OF GERMANY & HOLLAND

Towards the end of September I started a tour of companies in Germany and Holland. The tour was at Ray Burnett's suggestion and as with the USA tour earlier in the year Arthur Wray was with me for much of the time. We were met by an M.I. representative at each place.

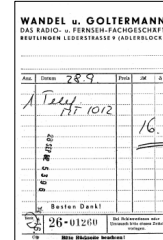
Arthur Wray and I flew to Munich where we paid a fascinating visit to a Siemens factory. We then went by air to Berlin where we were shown over the Rohde & Schwarz factory. We managed to fit in a coach tour of East Berlin, going through Check Point Charlie and being taken to many places of interest. We then visited another Siemens factory.

At this point Arthur Wray's great interest in trains again came to the fore. We went into East Berlin on foot to obtain a special permit for rail travel through East Germany to get to the West. During our walk

back to West Berlin I tried to get a German edition of *Emil and the Detectives*, which I had read as a child, but was informed that the book was verboten!

On the train journey from the Zoological Gardens station through East Germany to Frankfurt several security checks were carried out but there were no problems. Arthur Wray went back to the U.K. and I went on and stayed the night in Stuttgart.

On my way to visit the Wandel and Goltermann instrument company in Reutlingen, I went to the record shop where W&G started and bought a record of Beethoven Sonatas. I continued on to the company itself for a tour and discussions on possible cooperation between the two companies. I stayed in Reutlingen overnight then, since it was a weekend and hotels in Mainz were full, I went on to Wiesbaden where I saw, heard but did not understand the opera *Ariadne auf Naxos*. I continued by taking a Rhine cruise to Cologne then on to Amsterdam. I completed the tour with a visit to Philips.



On my return home I wrote a report on the tour which was favourably received. The M.D. asked me to follow up my suggestion about collaboration with Wandel and Goltermann but this clashed with Export Manager's plans for Germany and I got nowhere with it.

During the trip I had been very impressed by the knowledge a Siemens Director had of English Electric. I had not by then caught onto the idea of asking Head Office for details of a Company from which I was about to receive a visitor or which I was about to visit.

05 There was another thought-provoking event occurred around this time while we were living in South Harpenden. We had a pressing invitation to a drinks 'do'. The pressing invitation surprised us for we hardly knew the persons concerned. There we met a youngish man (a lawyer?) who had just been appointed to a Chair in Cambridge. [The 'return to academia in Cambridge' scenario comes to mind].

IEE ACTIVITIES

Since joining Marconi Instruments I had not been particularly active in the Institution of Electrical Engineers (IEE). However some consequences of proposals I had made at Savoy Place, the London H.Q. of the IEE, while I was at the Cavendish Laboratory were working their way through the system. As a result I was appointed, as from 1st October 1962, Chairman of a new Electronics Division Professional Group, E1 on Electronic Measuring Instruments and Techniques. I had a brief to set it up and make itself felt.

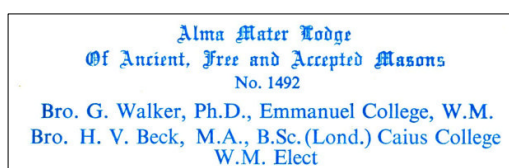
MASONIC ACTIVITIES

During 1962 I was as active in Freemasonry as circumstances allowed. My Craft lodge met on Saturdays so there was little problem in attending. After the move to Harpenden I travelled to Cambridge for masonic meetings - I did not join a local Lodge.

06 One disquieting incident at M.I. concerned Freemasonry. When I mentioned to Ray Burnett that I had been to Cambridge one weekend, I was greatly surprised when he surreptitiously gave a masonic sign. I had in fact attended a meeting of my Lodge. Clearly, he knew about my Masonic activities and, most significantly, he wanted me to know that he knew.

In November 1962 I was elected Worshipful Master for the ensuing year and two weeks later I attended a Luncheon in Emmanuel College as Guest of Honour to inform Past Masters of the list of Officers I was proposing for my year.

On 1st December 1962 I was installed as Worshipful Master by Dr. George Walker, who I came to consider as Australia's man in Cambridge. The Provincial Grand Master (PGM), Sir Henry Thirkill, sat next to me at the celebratory dinner after my Installation.



I was very intrigued when Sir Henry expressed regret that I had left Cambridge and then pointedly said that he himself had gone away from Cambridge for some years and when he returned he had only a short spell as Master of a Cambridge Lodge before being appointed PGM. He added that one did not have to practice one's Masonry in Cambridgeshire in order to become its PGM.

A newly-installed Worshipful Master presiding for the first time over the Lodge dinner is kept very busy. I regret that I did not make more time to ask Sir Henry Thirkill about his time at the Cavendish Laboratory.

REGRET & DELIGHT

Life was interesting and I was progressing rapidly yet because of the very puzzling remarks being directed at me and the anarchic opposition of the Chief Engineer, I was beginning to regret my move to M.I. It was dawning on me that something was very much amiss - relationships between people were of a kind which I had never encountered or been aware of before.

I will end this account of 1962 with a mention of a delightful encounter. When, in January 1962 I attended the premiere at M.I. of a film for 'selling' M.I. X-ray image intensifiers, I had the pleasure of meeting TV presenter Richard Baker, the commentator in the film. About 50 years later our voices could be heard, one immediately following the other, in a Radio 3 programme about the destruction of the Queen's Hall during WW2, both making the point that our respective fathers had been keen to promote classical music to the masses.

Harold Beck
April 2015