

GERHARD LIEBMANN born 29.6.1906

Gerhard Liebmann (Gert) was born in 1906 in Berlin-Charlottenburg to middle-class Jewish parents, Martin and Margarete Liebmann. They were not religious. After Martin's retirement at 50 from his textile business, the family moved to Bavaria to run a farm, which was unsuccessful. Margarete did little housework, and Gert was not well fed or cared for, so did not eat much and was very thin. He went to many different schools, often being the only Jewish student and a victim of anti-Semitic bullying. This continued when he attended the *Real-Gymnasium* (grammar school) in Munich, where he was one of only three Jews in the school.

The family returned to Berlin when the farm failed and they ran out of money. They had no means of support, and flats were hard to find, so they persuaded Margarete's mother, who still lived in Berlin, to move into a larger flat, which they then occupied all together. They let two rooms as an office to help pay the rent. Wally came from Bavaria as a young girl to be a general maid, and stayed with the family most of her life.

Gert had a brother Kurt who was 11 years older than him, and who trained as a doctor, but could not afford a medical practice, so did mostly locum work, which helped to support the family. However he contracted pneumonia, was rushed to hospital but died. He was only in his early thirties. It turned out later that Kurt was actually Gert's half-brother, as Gert's real father was Margarete's brother-in-law James, a left-wing lawyer, a *Justizrat*, who defended many socialists and Communists in the courts.

Gert did not finish his schooling to the *Abitur* (school-leaving examination, required for university entrance), as Martin insisted that he had to earn money, to help with the family living expenses. So Gert started as an apprentice at the firm Ludwig Loewe, which made instruments. At the same time he found some private tuition, and worked on his own to do the *Abitur* as an external student, and passed it first time, although it was very difficult to pass this examination as an outsider.

In 1925 he started at Berlin University in the Faculty of Philosophy, studying physics (theoretical and experimental), mathematics and philosophy. It was a very exciting time to be studying physics, as many of the lecturers and tutors were famous names in the new theories such as relativity and the uncertainty principle. As his family still had no money, Gert tutored children in school subjects. Travelling to the pupils took up a lot of time, so his studies had to be done mostly in the evenings.

In 1926, Gert met Dora Badt (Dodo), who was studying the same subjects at Berlin University. They often found themselves together in practical classes and on student trips. They first met at the age of 20, but did not marry until 1936, when they were 29. By chance Gert was also placed in Dodo's section when, as a work student, he went to Osram where she was working at the time. Gert achieved a good D.Phil degree in 1930; he had worked on his thesis under Professor Skaupy at the University, on properties of fluorescent materials. His research must have been of some significance because his

daughter found a reference to it in a physics textbook when she was studying physics at Oxford University 1961-64. After his degree, Gert did some further research at the university on a grant, and then started working at A.G.D.S. Loewe (a radio factory), where he was in charge of a department, until his emigration in January 1937. He managed to get Dodo a job as his assistant from 1931-32, though they had to keep their relationship well-hidden from other colleagues. Most Jews were dismissed in 1933, but Gert was able to continue, because one of the directors was Jewish – but he got no increase in salary after that.

As is well known, everything became very difficult for Jews after 1933, including for Gert. He was attacked in the street on at least one occasion, and had to take different routes to visit Dodo. He and Dodo became politically involved in 1931 and joined the Communist Party in 1933, after Hitler came to power. They saw the Communist Party as the only active group doing underground resistance work against the Nazis – and which did not discriminate against Jews. They took part in distributing forbidden literature, which involved dangerous meetings with other members of the group. To keep themselves sane, Gert and Dodo spent weekends on their small sailing boat in the Grunewald near Berlin.

Gert was also able to help Dodo finish her studies by coaching her for the oral examination in 1934, and when she lost her job, he encouraged her to start a monthly journal of abstracts for the radio industry. It was called *Fortschritte der Funktechnik* ('Progress in the Radio Industry'), and was very successful until she had to close it down for fear of Nazi attention.

Gert and Dodo got married in 1936 as part of their plan to emigrate, so that Dodo could be included if Gert managed to get a job. Dodo's flat was too small for them both, but the Jewish landlord managed to find a larger flat for them after a few months.

Gert and Dodo had been thinking about emigrating for about two years before they actually left. Gert went to London in 1935 to look for a job but had no luck, and returned to Berlin. However, he left all his papers with his friends Otto Kantorowicz and Ilse Barasch in London, in case he was able to apply for another job, but could not go to England at the time - he could not send an application from Berlin, in case it was censored.

In 1936 there was an advertisement in one of the English periodicals, asking for somebody with knowledge of electronics and vacuum techniques, an unusual combination. It seemed to be just the job for Gert, almost written for him. So he wrote to his friends in London, who submitted his application and all his papers, to the firm (Pye) in Cambridge, who then asked him to come over for an interview. He talked his way through Immigration by showing them a large German physics book he hoped to get translated into English, stayed with his friends in London and went to the interview in Cambridge. He then arranged that the answer would be sent to the friends in London, because of fear that if it came to Germany, the letter might be opened. He arranged a code by which Otto Kantorowicz would let Gert know whether he had got the job and if so, with what conditions. The letter was to be addressed to 'Gertrude' instead of Gert, because

women were not in as much danger as men at the time. Soon a letter arrived from Otto saying, 'The ammeter is working satisfactorily, with one second swinging time and 500 milliamps current consumption', which meant, 'The job is OK with a contract for one year, and a salary of £500 per year'. They wanted him to start as soon as possible, so he arranged to start on 1 January 1937.

He unfortunately told his boss, with the result that his passport was confiscated. After three weeks of anxiety, he managed to retrieve it and left for Paris on the next train, and from there to England, a few days late in starting his job. Dodo wrapped up their whole life in 36 hours and followed.

They initially stayed with friends in London, then moved to Cambridge for Gert to take up his job with Pye. In 1938 he was transferred to London briefly, then back to Cambridge in Autumn 1939, just before the start of the war. They managed to get Gert's parents out of Germany and into England, in March 1939. They found housing for them nearby.

When the war broke out, Gert and Dodo switched to English as their everyday language. They could not bear to speak German any more. Then in 1939-1940 they were both interned (in separate camps) on the Isle of Man for nine months. When they returned, Gert took up his job at Pye again. Dodo would also have liked to work but was not given Home Office permission. Then they had their two children, Marian and Stephen, born in 1942 and 1945 respectively. As soon as the war was over, Gert and Dodo applied for British citizenship, which they achieved in 1946. Money was very short as they were supporting Gert's parents as well as their growing family.

In Germany Gert and Dodo had worked on resistors for radios, and had brought a process with them to England for manufacturing high-stability carbon resistors. Gert had photographed all the instructions before leaving Germany. They wanted to sell the process to an existing company, but no one believed it could work, so in 1946 they started their own factory, Cambridge Electrical Components Ltd (CELCO), to show that it could be done. Initially they were both involved, but in 1947 Gert got a new job working away from home, so Dodo took over the management. In 1949, having demonstrated that the process worked, she was able to sell it to a larger company looking to expand its range. She continued as a consultant for three years, receiving royalties which made a big difference to the family finances over the years. In between everything else, Gert and Dodo also designed a circular slide rule, and had prototypes made.

Gert was made redundant from Pye in Cambridge in 1946, but after some anxious months, by advertising in *Nature* journal, he managed to find a better one, more suited to his talents. At Pye he had been doing mainly development work related to commercial concerns, whereas his interest lay in pure research. While working at Pye, he started to develop an electron microscope in his spare time in the evenings, and he was able to continue this interest in his new job with Associated Electrical Industries (AEI), which was starting a new research laboratory.

The new job was in Aldermaston, Berkshire, in a former manor house in a large park. At first all the staff lived there as well as working there. So Gert had spare time, in which he took up painting again, producing a series of lively watercolour landscapes. He was also able to collect fungi (which he knew from life in Germany) in the woods in the park. However, he could only afford to come home every third weekend, leaving Dodo to manage the children (with paid help), the factory and Gert's elderly parents. Money was still tight for the family, which caused much anxiety. After two and a half years, when Dodo sold the factory in 1949, she and the children were at last able to move to Aldermaston in 1950, and they were reunited as a family.

They lived in a converted army hut which was poorly insulated from heat or cold. The children had to travel ten miles to school in Newbury. So Gert and Dodo worked their way to buying a house in the nearest large town, Reading.

When they started looking at houses, none met their satisfaction, so they bought a plot of land and an armful of architecture books, and designed their house completely, also supervising the building. It had four bedrooms, all but one south-facing, back-to-back bookcases for the children's bedrooms, a porch big enough to contain a table and chairs, a small study for Gert, a garage, three outhouses, and a large garden in which they preserved many of the trees of the former woodland. They started the process in 1953 and moved into the house in December 1954.

Gert became well known for his work in the field of electron microscopy. He published at least 40 papers and monographs, and was in demand for lecture trips to several places, including a six-week tour to the US in 1955. Gert also travelled on his own to Austria to ski every winter. In 1954 he took the whole family on a holiday to Austria, visiting Wally (the family maid from Berlin days) in Munich on the way – he wanted to see her while she was still alive.

Gert died suddenly and unexpectedly of a heart attack on 18 June 1956, aged 49, while playing tennis in Aldermaston with colleagues after work. He was cremated and his ashes buried in Reading. Later a memorial meeting was held in Aldermaston at which many of his colleagues paid tribute to him. He left his wife Dodo and two children aged 14 and 10.

Word count 2100