



WHITE HALL AIR PHOTO FROM EAST
BOUGHT OCT. 1962, SOLD LATE SPRING 1983



NEATS HOME CA. 1964
ALMA, ENID AND FRANCIS LEVETUS



JULY 1966
WHITE HALL
MICHAEL, TIM
"GUS" ALLEN (N.Y.)



EAST SIDE LOOKING ACROSS RAIDGE TO VEG. GARDEN



FRONT DOOR ON SOUTH SIDE





NEAT'S HOME CA. 1964
ALMA, ENID AND FRANCIS LEVETUS



JULY 1966
WHITE HALL
MICHAEL, TIM
"GUS" ALLEN (N.Y.)



1982
ALMA
WASHING
EGGS AT
KITCHEN
SINK
(VERONICA'S
PICTURE)



FRONT DOOR ON SOUTH SIDE



JUNE 1977
ALMA PAID
MICHAEL
(GEOFF. DALE'S
PICTURE)



SPRING 1983: MARY MEHNE, ALMA, CORKY, EVELYN
NB: THE DUFFY PICTURE, PADDY'S PLATE, NADIA USTINOV'S "PUB"
(CORKY'S PHOTO)

When Francis was notified of Michael's death in Australia on the 28th December, 1982, he telephoned me and we decided to take the first flight available so that we could be with Alma when she got back to Chirley. We flew on the next evening via Darval, Boston, London and Manchester (where Francis rented a car) and arrived at White Hall to find Veronica Meyer and (Dr?) Lbrick Eirkhoff there. They were looking after the place while Michael and Alma were away. This was a marvellous stroke of good luck because Lbrick could drive exhausted Francis and me that evening to Manchester to meet Alma's plane from Zurich and, as an M.D., could listen to Alma's account of Michael's death (epileptic attack) with intelligence and sympathy. And, of course, Veronica just went straight ahead looking after chuckens and cooking meals.

Paddy came back with Alma so she had her two sons with her and during the next week they sat about planning the immediate future together as well as advising, with many notes, about 300 death notices.

Francis stayed a week having seen Paddy off and having met Tim before he flew home. Tim stayed a week and he and I flew home together — the same route only reversed and starting at 6 am. on 13th January 1983. The important things that were decided were that White Hall should be sold and that Alma must not be left alone. Sabie Boag moved in for a week on the day that Tim and I left, to be followed by Barbara Rolleston and Thomas for a month; then Susan Rolleston, etc., etc. Evelyn and Corky were there for May. And so it went. All these months were spent sorting out the contents of the house: what should be kept and by whom; selling some things; lots of gifts (I came home with the David Milne print and a couple of books and some

Pattory — Paddy's)

Francis spent the last two or three days with Alma and drove her away to Paddy's in Dorset on the 4th July with, as she put it, her previous farms on her lap.

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In the meantime Paddy had applied for and got a teaching job in Devonport, and so, they had to find a new house which would be large enough to have a "granny" wing for Alma. They found and bought "Copper Beach" into which they moved on about the 20th August.

It took ages to remodel Alma's wing (skillfully planned by Jack Boag). In fact she never did actually live in it. She spent a lot of time with the Boags in Surrey. She was in Switzerland for the month of October visiting "the nurses" (Ruit Guenger, Sylvia Köpfeli, Veronika Meyer etc.). She was with Guenna Howard in March 1984 while she gave a lecture in Oxford. She was staying with the Boags when she died very suddenly on the 1st April. Both Francis and Paddy were with her and so was Ruit's boy, whom she loved, and Ruit's husband, Humphrey.

Obituary

Michael Ebert
(1914-1982)



Michael Ebert died suddenly on 28 December 1982, while on holiday with his wife, his daughter and his granddaughter, after a few days of sunshine and good company in Seefeld, Tyrol. The cremation took place in St. Gallen, Switzerland, where some of Michael's family reside.

Michael Ebert had family links with several European countries and was, to an unusual degree, a citizen of Europe. Born in St. Petersburg (as it then was called) on 5 November 1914, he could still, in later life, converse in Russian. The family moved to Germany and Michael was educated in Berlin in the years between the two world wars. In 1931, at the age of 17, he first visited Britain through a pupil exchange arrangement and spent a term at Wallasey Grammar School, thus early acquiring fluency in his third language, English. He matriculated at the University of Berlin in 1934 but had to spend the years 1935 to 1937 in military service. In 1937 he enrolled for chemistry studies at the Technische Hochschule in Berlin. In August 1939, he was recalled to his regiment and served as an officer on various fronts during the war, winning the Iron Cross (2.Kl.). Before the end of the war, however, he obtained leave to pursue his studies in Professor Hahn's laboratory at the Kaiser Wilhelm Institute for Chemistry and he remained in this group, then situated at Tailfingen near Mainz, until he graduated Dr. rer.nat. from the University of Mainz in 1948.

In the immediate aftermath of the war Michael experienced real hardship and hunger, as did so many others in devastated Europe, and this he never forgot. He recognized his own good fortune in surviving and being able to continue his scientific work and as soon as he was in an established position he took every opportunity of

assisting scientific colleagues trapped in difficult political situations by his friendship and hospitality and by enabling them to participate in advanced research projects.

Michael came to England again in the spring of 1949 and taught chemistry for some months at Latymer School in Hammersmith, where the Headmaster, Mr. Wilkinson, had known him during his term at Wallasey Grammar School. Late in 1949 he was introduced to Dr. L. H. Gray who offered him a position as radiation chemist in the basic radiobiology group that was being formed within the Radiotherapeutic Research Unit of the Medical Research Council at Hammersmith Hospital. Dr. Ebert's training in Professor Hahn's laboratory fitted him uniquely for this position and he at once took his place as a stimulating and productive member of the group, feeding chemical ideas and expertise into the collaborative research with physical and biological colleagues, and at the same time learning their special problems and methods. To this period belongs his work on H_2O_2 formation in aqueous solution and his contributions to the oxygen effect, which became a leading theme in Dr. Gray's group. At this time, too, the collaboration with Dr. Alma Howard began. Jointly, they discovered the 'rare gas effect', i.e. the inhibition of the normal oxygen effect when an additional pressure of xenon, krypton or argon was added to the aerobic system, an effect that has not yet been adequately explained.

Michael Ebert took British citizenship in 1954. In 1955 Dr. Howard moved to the new B.E.C.C. Research Unit which Dr. Gray had established at Mount Vernon Hospital, but Michael did not allow this to become a permanent separation and in January 1958, to the delight of their friends, Alma and Michael married and found near Rickmansworth a house and garden large enough to allow them full scope for both hospitality and gardening, their principal leisure pursuits, for which they rapidly established an international reputation.

Moving to Manchester in 1962 at the invitation of Dr. Laszlo Lajtha, they joined the expanding radiobiology research group at the Paterson Laboratories and found a spacious home at Chinley where they welcomed friends and scientific colleagues from many countries, allowing them to share in all the pleasures of country life. No one was allowed to feel superfluous when Michael was about. One could generally assume that the volunteer weeding the adjacent patch was distinguished in some scientific discipline, and could confirm this in the long evening sessions before a log fire.

Michael's first task at Manchester was to improve the facilities for the pulse radiolysis research which John Keene had initiated there. The early work had all to be done at great inconvenience during the night on a service linear accelerator at the Trafford Park Works of the Metropolitan Vickers Company. Soon, however, funds were authorized for a 10 MeV, 10 nanosecond pulsed linear accelerator to serve both the Paterson Laboratories and the radiation chemistry group headed by Dr. J. H. Baxendale at the University of Manchester. This machine, built by the Radiation Engineering Division of Vickers Ltd. was commissioned at the Paterson Laboratories in December 1967, and immediately justified itself as an indispensable research tool. Dr. Ebert's efficient organization soon made it available to many 'deprived' (i.e. of pulse facilities) groups in this country and abroad. The annual lists of publications from the Paterson Laboratories are sufficient testimony to the breadth and continuity of the numerous collaborative research projects and to the value of the published work. When Michael retired in 1977 he was presented with a large framed picture composed of individual photographs of fifty-one of his major collaborators during his 15 years at the Paterson Laboratory.

In 1968 Michael Ebert and Alma Howard became joint editors with John Wakefield of the *International Journal of Radiation Biology*. Pulled by this 'troika' the Journal made rapid progress and the Eberts continued to edit it after their retirement from active research at the end of 1976. They had already planned to hand it over in excellent shape to new editors early in 1983. During the years 1964 to 1977 the Eberts also launched and edited the annual, and latterly quarterly, *Current Topics in Radiation Research* which gave space for extensive accounts of new discoveries in the field. They were able to attract contributions from many distinguished workers and these volumes remain valuable for reference today.

Michael Ebert was a founder member of the Association for Radiation Research and served as its Chairman in 1976 to 1978. He was Chairman of the L. H. Gray Trustees during the years 1976 to 1979. Distinguished as was his personal research work, Michael's special genius lay in his ability to establish a creative and friendly collaboration with colleagues from many countries and cultures, placing his knowledge and experimental facilities at their disposal. In the same spirit he made many lasting friendships in the village where he lived and among those he met in his leisure pursuits—gardening, beekeeping, mountain walking. He was a link by which many subsidiary friendships were held together: such people are rare and invaluable. Michael Ebert will be sadly missed and long remembered with affection by his many friends throughout the world.

JACK BOAG

Obituary

Alma Howard Rolleston Ebert

(1913-1984)



Courtesy of Professor E. L. Powers

The death, on 1 April 1984, of Alma Howard, as she was always known in scientific circles, will be deeply felt by her many scientific colleagues and personal friends. Following the death of her husband, Michael Ebert, at the end of 1982, Alma moved to Sevenoaks, where a separate flat was being prepared for her in her son's home. The work was almost completed when she was taken ill. Untreatable liver cancer was diagnosed and she died less than three weeks later. However, the pain was well controlled and in this short span of time she accomplished much, by meeting friends, writing letters, and dictating on to tape some of the literary work she had hoped to do in the future.

Alma Howard was born on 23 October 1913, in Montreal, and was educated first in the Trafalgar School for Girls and then at McGill University. She graduated B.Sc. in 1934 with honours in Botany and Zoology and entered the Department of Genetics at McGill for graduate studies under Professor C. L. Huskins. Her Ph.D. Thesis, submitted in 1938, was on 'The correlation between chromosome behaviour and susceptibility to mammary gland cancer in mice' and this won for her the Governor-General's medal for graduate work in science. During 1939 and 1940 she was a demonstrator in Genetics at McGill and held the Finney-Howell Research Fellowship. In the course of this work she discovered a new murine mutation, called 'rhino' because of the crumpled skin. She is still remembered by a contemporary in the department as a tall, strikingly handsome girl who took a lively part in the intense

arguments that went on, but always managed to 'keep her cool' and to maintain an attitude of friendly respect combined with gracious dignity. These character traits remained with her throughout her life.

In 1939 she married Patrick W. Rolleston, an Englishman with Irish antecedents. The wedding ceremony was conducted in a flower-studded meadow near her family home. Her first son, Francis, was born in 1940 and her second son, Patrick, in 1942. The family settled in England after the war but her husband died in 1947 and Alma had to find work which would allow her freedom to bring up her two young sons. Dr. L. H. Gray was at that time looking for a cytologist to work in his radiobiology team in the Medical Research Council's Radiotherapeutic Research Unit at Hammersmith Hospital. By a fortunate chance he was introduced to Dr. Howard and flexible working arrangements were readily agreed. On this preliminary visit to the Unit Alma met Dr. Stephen Pelc and was much interested in his use of radioactive iodine for the autoradiography of rat thyroid slices. In the interval before taking up her appointment she had time to think out how this technique might be applied to investigate the dynamics of the mitotic process.

And so, on her first day as a member of the MRC staff at Hammersmith she suggested to Pelc that they might inject a mouse with ^{32}P and study the rate at which that isotope was incorporated into the DNA of dividing cells in the testis. A mouse was immediately sent for and injected. A week later the first autoradiographs were developed and they showed some promise of success. In later work cells of the bean root *Vicia faba*, already a familiar experimental system in Gray's laboratory, proved more amenable for the elegant studies of the different stages in the cell cycle that Howard and Pelc succeeded in demonstrating—a truly seminal discovery.

The radiobiology research community was then still small and the workers were well known to one another. Alma related how, one afternoon, she was standing on the platform of the rural station of Radley near her home when the fast train from London to Oxford passed through. As it slowed down through the station the head of C. E. Ford appeared at an open window and he shouted "Alma, it's 46!". This was how she first learned the true chromosome number of *Homo sapiens*.

While at Hammersmith, Alma worked with Dr. K. Tansley on cataract in the lens of the rabbit and, with Dr. Michael Ebert, discovered that excess pressures of the rare gases xenon, krypton and argon could suppress the oxygen enhancement effect on the radiation killing of *Vicia faba* cells.

In 1956 Alma joined the new Research Unit in Radiobiology which Dr. Gray was setting up at Mount Vernon Hospital with support from the Cancer Research Campaign and a capital grant from Dr. O. C. A. Scott towards the cost of buildings. In 1958 she married Michael Ebert. Much of her time in the period 1960-62 was taken up with arrangements for the Second International Congress of Radiation Research, which she served with distinction as Secretary-General. In 1963 Alma and Michael moved to the Paterson Laboratories in Manchester, where she became Head of the Radiobiology Group, and in 1966, Deputy Director. She retired in 1976.

In her scientific work at Manchester, Dr. Howard and her students and collaborators used various test systems, including, of course, mammalian cells *in vitro* and *in vivo*. Her early training in botany, however, enabled her to bring into use also some botanical systems with interesting properties, such as the alga *Oedogonium cordatum*, the spores of *Osmundia regalis* and the desmids, *Cladocium moniliferum*. Alma was author or joint author of some 94 papers in the fields of genetics and radiobiology.

As Joint Editor (1963-75) of *Current Topics in Radiation Research* and as Joint Editor from 1966 until her death of the *International Journal of Radiation Biology*, Alma Howard served the research community well by her rigorous standards of scientific accuracy and of literary style. She also served as Chairman of the Association of Radiation Research and of the British Association for Cancer Research and gave the L. H. Gray Memorial Lecture to the International Association for Radiation Research in 1966. She was for four years Secretary and later Chairman of the L. H. Gray Trust.

Some fifteen years ago Alma began to suffer from progressive lameness, eventually diagnosed as multiple sclerosis, but she fought this both physically, by following rigorously advice on diet and on exercise, and mentally, by totally refusing to let it get her down. She remained mobile and able not only to carry on her scientific work but also to entertain a constant flow of visitors to the Eberts' home in Chinley, and in the end the disease seemed to acknowledge defeat. White Hall, Chinley, was a meeting place for visiting scientists, postgraduate students of the Manchester University School of Nursing, and family friends from many countries. All were made to feel part of an extended family and were allowed to share in the domestic tasks. Alma lived her life with zest and enjoyment to the end. Her many friends will be glad to know that plans are afoot to invite support for an academic appointment at McGill as a memorial to a very distinguished alumna.

JACK BOAG

Memorial Symposium

It is planned to hold a Symposium in memory of ALMA HOWARD entitled: "The cell cycle concept and its applications" in the Spring of 1985, in Manchester. The two-day Symposium will consist of 12 invited speakers and will be limited (on a first come basis) to a total of about 75-100 participants. Further information from Dr. C. S. Potten, Paterson Laboratories, Christie Hospital & Holt Radium Institute, Wilmslow Road, Manchester M20 9BX.

The papers will be published in a special issue of the *International Journal of Radiation Biology*.

Editor

DR ALMA HOWARD

Dr Alma Howard, who died on April 1, was a radiobiologist, who made a considerable contribution to cell biology.

Born in Montreal, Canada, in 1913, she took her degree at McGill University, and completed her PhD thesis on genetics and cancer in 1938. She married P. W. Rolleston in 1939, and they had two sons.

After the tragic death of her husband in 1947, she returned to scientific work, and joined the team led by L. H. Gray, deputy-director of an MRC unit at Hammersmith. Gray introduced her to Stephen Pelt, and so began one of those fruitful partnerships, where people with complementary skills combine to produce outstanding work.

Pelt, a physicist, had developed an elegant photographic method, which made it possible to examine the chemical activity of single cells. She, with her background in genetics, realized the potential importance of DNA. (This was before the discovery of the Double Helix.) Together, they traced the connection between DNA synthesis and the division of a cell.

After some initial opposition, their work was universally accepted, and their nomenclature for the phases of the cell cycle is to be found in every textbook of cell biology. Their

discoveries stimulated the development of a new branch of science, now called cell kinetics.

After the breakup of the Hammersmith Unit in 1953, she wished to rejoin Gray, but this did not come about until 1956, when the new Radiobiology Unit at Mount Vernon Hospital was completed. In 1963, she was made Head of Radiobiology at the Paterson Laboratories in Manchester, and in 1966 became deputy director.

In addition to her scientific skills, Alma Howard had a capacity for sheer hard work, which made her a natural choice for performing the administrative chores which many scientists prefer to avoid, such as the organization of the Radiation Research Conference in Harrogate in 1962.

She retired in 1976, but continued to do editorial work, despite the onset of multiple sclerosis, and problems with her eyesight. When told that she had cancer, she faced the situation with iron resolve until she died, tended by friends in their home.

In 1958 she married Michael Ebert (later head of Radiation Chemistry at the Paterson Laboratories) and together they created a remarkable world in their house in Chinley, until his death.

Sy/4/13 TRL (LONDON) Tower
(Dr. Oliver Scott)









