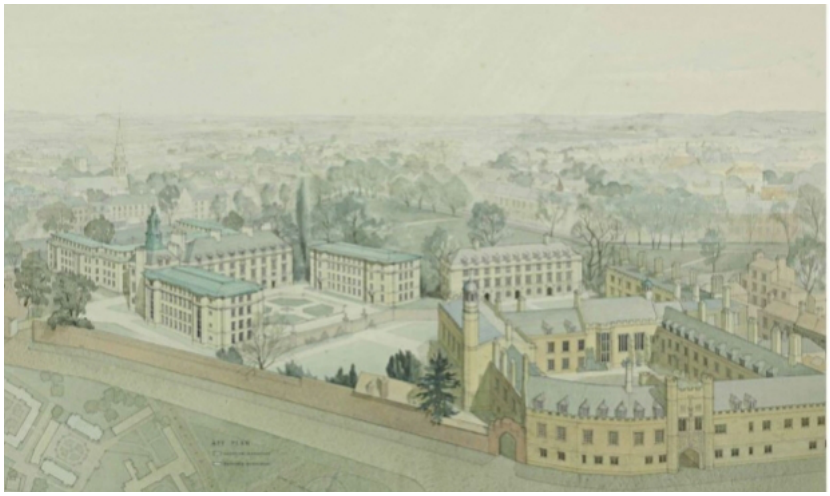
Cambridge and Christ's College 1949 - 1952

My first visit to Christ's in 1949 was for an interview with Dr. Pratt (Lucan Pratt), then Senior Tutor. That was pretty scary for a 17 year-old, but I soon realised that he was the kindest of men, and deserved his reputation as the outstanding Senior Tutor of that period. That October I came into residence. I really can't remember any problem with assimilation despite being younger than the majority who had completed a two-year period of National Service, and despite the fact that I had almost never been separated from home and family. It was a very different world from today. One had to be independent. Incredible as it seems today, phoning home would have been a difficult process. Subscriber Trunk Dialling did not arrive until 1958.

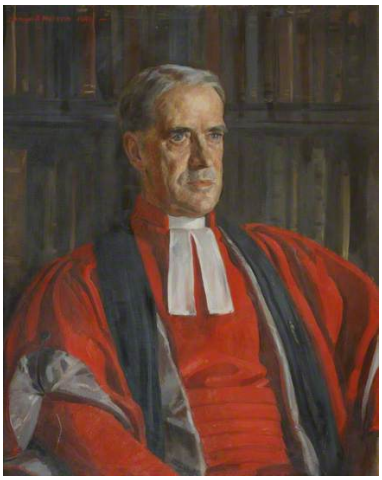
At that time the Stevenson Building was the newest part of the College, and the Senior Tutor's house/office was the only other building in 3rd Court. And that was a family home for the Pratts who had several small children. But the first new building was under way and I lived there in my second year ('W' staircase/ Chancellor's Building / now Blyth Building). The iris bed in the sunken oval garden was also created at about that time; in our ignorance we talked of these as 'Dr. Peck's irises, not being aware of Mrs. Seligman's gift. The neo-Georgian building itself was designed by Sir Albert Richardson. Steen related stories of Sir Albert's notable eccentricities.

Sir Albert Richardson at home!



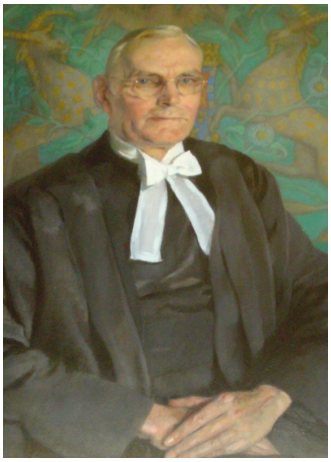
Sir Albert Richardson's vision for Christ's

Of course living standards were very different in 1949. We handed in our ration books to Miss Holgate. And her staff fed us jugged hare! The College seemed to have an inexhaustible supply of this unrationed meat. And toilet facilities were pretty basic. Bath Court provided all the facilities for 1st and 2nd Court, though 'Fourth Court' was the term we used in those days. And at that time there was controversy over the colouring of the carvings over the Great Gate, which were just plain stone in 1949.



Canon Charles E. Raven

Canon Raven was the Master in my first year - friendly to undergraduates - most of whom knew little of his reputation as Theologian, Naturalist and Administrator. Rowing men were grateful for his supportive presence at Grassy Corner; he was in fact President of the Boat Club in 1952, after the end of his tenure as Master. His successor as Master, Brian Downs, seemed remote and austere by comparison.



Brian W. Downs

Ian Ramsay was the Chaplain in 1949. I was not a chapel-goer, but he preceded Canon Raven as President of the Boat Club, and so we knew each other quite well; he kept in touch with me for a short while after leaving the College for Oriel College Oxford. He became Bishop of Durham (referred to as the 'Improbable Bishop") and it's said that he might have gone to Canterbury had he not died young. David Yale became a Fellow in 1950, became Vice-President, and then President of the Boat Club.

Canon I.T. Ramsay

Dougas Rayner Hartree

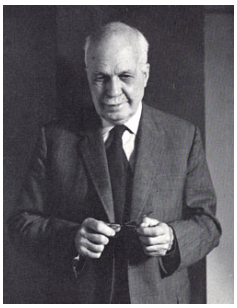
The other Fellows I knew best were S.W.P. Steen, and Albert Kempton who had worked with Rutherford 15 years earlier. Jack Plumb and Douglas Hartree were familiar figures. I particularly wish I'd had some personal contact with Douglas Hartree - a most important but often forgotten figure in the early history of British computing, standing with Alan Turing, Maurice Wilkes, and Max Newman. Recognition only really came to Douglas Hartree in 2012, with the naming of the Hartree Centre for research into supercomputing. See attachment on Douglas Hartree and his work.

Fred Hoyle

Of course we had notable lecturers in Mathematics and Physics.

In my first year maths I cannot forget the "Cambridge Cosmologists", Hoyle, Gold, and Bondi. Fred Hoyle's lectures were particularly poor. He probably begrudged the time needed to prepare undergraduate lectures. Hoyle was of course a difficult man and much of his scientific work was controversial. But he received a knighthood nevertheless.

Abram Besicovitch (left) also lectured to us; he had been a pupil of Markov.



Sir Lawrence Bragg

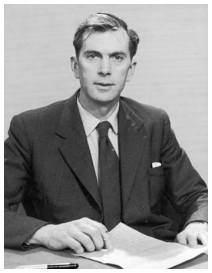
Then I moved on to physics in the Cavendish Laboratory. Sir Lawrence Bragg lectured on X-Ray Crystallography. Max Perutz said of him:

"Bragg's superb powers of combining simplicity with rigour, his enthusiasm, liveliness and charm of manner, and his beautiful demonstrations all conspired to make him one of the best lecturers on science that ever lived. "

With due respect, that needs slight qualification. Lecturers need to adapt to their audiences. Rather than being challenging, and making us think, Bragg was just too lucid!

David Shoenberg

David Shoenberg was the central figure in Low-Temperature Physics once his mentor, Peter Kapitza, had been prevented from returning to Cambridge from Russia. Wikipedia is unfair to him with its deprecatory **"Although a talented physicist he was a notoriously poor lecturer"**. That is not how I remember it. I enjoyed his lectures.



Martin Ryle

We were fortunate to hear Martin Ryle and Maurice Wilkes, who were unquestionably the leading figures in Radio Astronomy and Computer Science. Both would be knighted. Martin Ryle had well-known disputes with Fred Hoyle and his work was the nemesis of Hoyle's "Steady State" Universe theory.

Maurice Wilkes

Brian Pippard had just been appointed as a lecturer - a good one - , and it was no surprise that he rose to become Cavendish Professor - and to receive a knighthood too.

Brian Pippard

One topic which was badly covered was Quantum Mechanics. I believe Douglas Hartree sometimes took this course, but it was someone else in our year.

And students? I was one of six Christ's men who graduated in Physics in 1952. (R.W. Hockney, I.T. Pye, J.D. Kennedy, R.N. Langmaid, J.M. Smith, and me)

We are all present in this Cavendish photograph of the graduates in that year. Seated in the centre are David Shoenberg, Brian Pippard, and Denys Wilkinson.

I kept in touch with several of the Christ's men for a while, and this is what I know of their life and careers.

After graduation, Roger Hockney went first to the University of Michigan and I visited him there one weekend in 1953 when I happened to be in the vicinity. Roger went on to become the first professor of computer science at Reading University. He retired early (1985) but continued with consultancy. He died in 1999 after a long illness.

Ian Pye went into the paper/pulp industry at Baie Comeau in Canada, and we kept in touch for a while. He married a French Canadian and I understand that he lives in Montreal.

I know nothing of John Kennedy's early career; I may have forgotten, since I did once meet him by chance in London. However he seems to have turned to Venture Capitalism with emphasis on science (Kennedy, Duff, Savage). But the venture failed. He died in 1992.

I never had any further contact with Roger Langmaid. I understand that he worked on magnetic recording systems in America for IBM and others. After return to England, he lived at Porthmawr Regency Mansion (now a hotel and wedding venue). He died in 2000.

I had more contact with John Smith. Alumni lists give "J.M. Smith" and my own address book just

"J. Smith". But he soon styled himself "John Macdonald Smith", and the Cavendish photo is annotated John Macdonald-Smith (hyphenated). John was very proud of his father - a radar pioneer. And as John was later to describe for the BBC's "People's War" pages, he as a boy found himself in the presence of some of the greatest scientists. His father was "C.H.Smith" who usually styled himself, with the hyphenated "Charles Holt-Smith"; he was awarded a CBE in 1955 and had become Professor of Instrument Technology at the Royal Military College of Science.

John's first job from 1952 was as a scientist at Aldermaston Atomic Weapons Establishment, where the first Aldermaston CND march took place in 1958. Perhaps that was the trigger for John to 'change sides', becoming CND activist and priest. He became "Rev. John Macdonald Smith", rector at Kidmore End. It was quite soon after that when I joined the Royal Military College of Science, briefly working under Professor Holt-Smith who retired very soon after. The Holt-Smiths seemed uneasy about John.

I knew that John left Kidmore End in 1982 and had immersed himself in theology and writing. He occasionally wrote "Face to Faith" articles which were quite obscure (to me). In 1988 Caspar Weinberger was awarded an Honorary Knighthood. This incensed John. He was then in possession of his late father's C.B.E., which he now returned to the Queen in protest. The newspaper publicity revealed that John was living quite near to me, and we met. We had little in common and did not meet again. He died in 2011.

Three youngish mathematicians at Christ's during that period went on to notable careers. There was Christopher Zeeman who was to become an Honorary Fellow of the College in recognition of his career achievements (and to receive a Knighthood soon after). Henry Jack was to devise the "Jack Polynomials". And Denis Mardle was one year ahead of me. He was a polio victim who had to cope with increasing physical disability. He joined GCHQ, where we were to meet again 25 years later by which time he was Chief Mathematician. For a while we had a shared interest in "Wavefront Analysis" - mathematical techniques for decomposition of sampled radio waves.

Of course there were a few students who would become celebrities! Pillars of the Union Society who became famous politicians were Norman St John-Stevas, Greville Janner, and Jack Ashley. And Tony Armstrong-Jones was the Cambridge cox.

David Cawsey (1949)

Attachment - next page - "A Short Appreciation of Douglas Hartree"

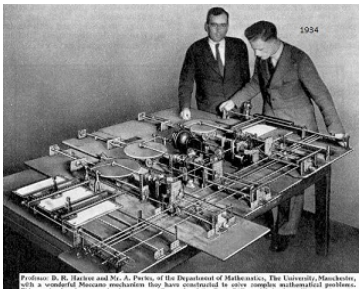
A Short Appreciation of Douglas Hartree

Douglas Rayner Hartree PhD, FRS (1897 - 1958);
Plummer Professor of Mathematical Physics; Fellow of Christ's College.

"It may well be that the high-speed digital computer will have as great an influence on civilization as the advent of nuclear power.....

.....there are, I understand many problems of economic, medical and sociological interest and importance awaiting study which at present cannot be undertaken because of the formidable load of computing involved."

These words are from Douglas Hartree's inaugural lecture as Plummer Professor in 1946. During the next 5 years or so he strongly influenced the early development of computing. It is sad that he died far too soon to see the outcome.



Professor D. R. Hartree and Mr. A. Porter, of the Department of Mathematics, The University, Manchester, with a wonderful Meccano mechanism they have constructed to solve complex mathematical problems.

This is Douglas Hartree with his first "computer", the mechanical differential analyser built from Meccano in 1934. He was a professor at Manchester, and already a Fellow of the Royal Society. A copy was built for the Mathematical Laboratory at Cambridge. Hartree himself spent much of the next few years applying the machine to the solution of differential equations arising in physics, and more mundanely to the construction of railway timetables! From 1939 the machine was used in support of the war effort,

In 1944 Hartree was on the committee which recommended that a new section should be set up at the National Physical Laboratory, one function being to investigate electronic computing devices suitable for rapid computing. That was only just after Colossus started operation at Bletchley Park. Colossus was part of Max Newman's work on mechanised codebreaking, and was the successor to his "Heath Robinson".

Hartree was becoming increasingly involved. In 1945, and again in 1946 he visited ENIAC in America. - and used it. He briefed Maurice Wilkes, head of the Cambridge Mathematical Laboratory - where Hartree's differential analyser was still housed. Wilkes visited ENIAC - and on his return began to build EDSAC, the world's first programmable computer. Hartree was personally involved in this to a substantial degree.

The NPL ACE project began in 1945, initially to Turing's design. But also in 1945, Max Newman was appointed to a Chair at Manchester, and sought funds from the Royal Society to build a computer. The Royal Society sought advice from Hartree and from Sir Charles Darwin (Head of NPL, grandson of "the" Charles Darwin, and a previous Master of Christ's College). Darwin opposed the application on the grounds that the NPL. project was sufficient. Hartree supported it. Hartree won. Work started at Manchester, and Turing, uncomfortable at NPL, soon went there.

In 1947 Hartree initiated, and then sustained the association between EDSAC and the J. Lyons Company that resulted in the Leo computers. Leo later named their headquarters "Hartree House".

In summary:

1. Hartree, Newman, Turing, and Wilkes (in alphabetical order) were together the most notable figures in the early history of British computing.

2. Cambridge's manifest successes in computing are founded upon Hartree's seminal contributions 70 years ago.

3. Of the talented Fellowship of Christ's College during that period, I suggest that Douglas Hartree can now be seen as the most significant. He had other claims to fame in addition to his place in computing. He was a world leader in numerical analysis, In quantum mechanics, the "Hartree-Fock calculations are still important. And he contributed to the development of the cavity magnetron.