

JDD 90th birthday speech – Early Years

Good afternoon everybody. I am delighted to see so many people here. Thank you for giving up your time today. When we were planning this event, I said I wanted to speak about my early years. I thought you might like to know why I chose Birmingham and what it was like to be a student there.

I'm actually from a small village in Leicestershire called Ellistown although I was born in Ashby-de-la-Zouch. I'm from a working class family. I was the eldest of four. We were all influenced by an aunt who taught Mathematics and an uncle who was a headmaster. My sister Janet studied English at university, and my sister Jill did Mathematics. My brother Phil did Maths at Cambridge. He was lucky. You no longer needed Latin to go there.

I had only just started at primary school when World War Two began in 1939. I remember the gas masks. We all had to have one. My classmates had ones that looked like Mickey Mouse. Not me! I had a plain one. I realised later that it was probably because the teachers thought I was intelligent enough not to need a Mickey Mouse mask. At least that's what I've concluded.

Going on to secondary school, I went to Coalville Grammar School. I did quite well and completed my advanced levels in Physics, Chemistry and Mathematics by the time I was sixteen. I also took part in sport and drama and played 'Darcy' in 'Pride and Prejudice'. A teacher worked on my pronunciation and, as a result, I lost my Leicestershire accent.

It was when I was in the sixth form that I became interested in studying Physics at university level. I chose Birmingham because it had an exciting research programme in Nuclear Physics, and was building a 1 GeV proton synchrotron which was going to be the highest energy particle accelerator in Europe. It would allow people to carry out research into what was then called High Energy Nuclear Physics. Today, we call it Particle Physics.

I came up for an interview for the undergraduate course. I can still visualise the interview panel. During the interview they found out that I was only sixteen! To my dismay, they said I was too young and sent me back home saying "come back next year". I returned to school for another year. My Physics teacher lent me his own university books and notes to keep me occupied.

I should say that because I'd chosen science subjects at school and I had an accelerated path to the sixth form, I hadn't been able to do Latin. This meant I couldn't go to Oxford or Cambridge. What a stroke of luck! They weren't building an exciting new accelerator!

I became a Physics undergraduate at Birmingham in 1952. I found lodgings in Northfield and had to give my landlady my ration book. Although the war had finished, we still had war time restrictions. My landlady once remarked that I couldn't be very bright because I was spending all my time studying. A fellow undergraduate, a year ahead of me but four years older, was Derek Colley. His studies were delayed because of National Service. I was lucky. I just escaped it.

In my third undergraduate year, Rudolf Peierls, from Mathematical Physics, taught me Quantum Mechanics and Relativity, which I found fascinating. You might have noticed his blue plaque on the wall when you came in. This was when my real interest in the subject began. Peierls would walk into the lecture theatre with a piece of chalk in his hand and start lecturing without notes from where he had stopped the previous time. He was a household name together with Otto Frisch. They were Jewish refugees from Nazi Germany who came to Birmingham in 1939 and showed that it was feasible to build a nuclear bomb using uranium. They wrote the "Frisch-Peierls memorandum" in 1940. I was still at school then and had no idea that I would spend my life doing Physics at Birmingham.

I was also taught by Dick Dalitz, famous for the Dalitz Plot and the Dalitz Pair. He had a strong Australian accent and would lecture at phenomenal speed.

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I decided to become a research student and, in 1955, I started doing experiments using the proton synchrotron and a propane bubble chamber that I had helped to build. My supervisor was Giuseppe Martelli from Pisa. He said I should go to Italy in the summer holidays. I decided to hitch hike there and was picked up near Pisa by an elderly driver in a Fiat 500 who was bragging that he had driven in the Mille Miglia. It whetted my appetite for Europe. When the opportunity arose to work there, I seized it.

I may very well have been a studious undergraduate. When I became a post graduate, I joined the University Rhythm Club and was the piano player in a jazz band called The Lions. The Medics were in a jazz band called the Mermaids. We were each paid ten bob to play at Saturday night hops at the Guild of Students. Then we'd go down the road to the Kohinoor on Bristol Street and spend the money on a curry.

My thesis was on proton-proton scattering and, for the first time, provided information on the shape and size of the proton. Mark Oliphant, also an Australian, had initiated the Birmingham synchrotron. There were higher energy ones at Brookhaven and Berkeley in the United States. Many Birmingham students ended up going to the States. Not me! Philip Moon, Head of Department, persuaded me to go to CERN.

I went to CERN in 1960 for two years with my new wife, Pat.

I became a Scientific Associate in Arne Lundby's group. There wasn't much experience of working with high-energy accelerators in Europe. Physicists from Birmingham and Liverpool were among the more experienced in setting up and carrying out experiments at CERN. Lundby's group exploited the ability of differential Cherenkov counters to measure particle velocities and hence distinguish various particle types. This technique was used to study the production of strange particle resonances and some interesting results were obtained.

Carlo Rubbia, the Italian physicist, arrived in CERN about the same time as me. He's a few months older than me and celebrated his 90th birthday last October. He remained at CERN. Some of you will know that I joined his search for the W and Z bosons some 20 years after we first met there.

I was offered a contract to stay on at CERN as a staff member but, in 1962, Philip Moon enticed me back to Birmingham with the offer of a permanent position. I was happy to accept and returned to Birmingham with Pat, and a new baby, who we called Laura.

The next few years were spent going to and from Harwell, often staying at the Chilton Flats with Pat, Laura and Simon. Birmingham physicists went there to work at the Rutherford Appleton Laboratory on Nimrod.

That's it for my brief account of my early years.