

MRIS History UK

THE DEVELOPMENT OF MAGNETIC RESONANCE IMAGING AND SPECTROSCOPY

# MRIS History UK

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# Paul Goddard

## Biography

GODDARD, Paul

I was born in Thornton Heath, Croydon, in January of 1950 thus just avoiding being amongst the poor souls born in the benighted 1940s. Croydon prided itself on its fiscal policies and clever control of rates and the main parties in local government were the Ratepayers, an independent group allied to the Liberals and Conservatives. They invested heavily in developing the centre of Croydon with huge office blocks, a concert venue and a major shopping centre creating a mini-Manhattan that is now much despised. The idea was that once the rates from the offices and shops started rolling in they would then be able to invest in people-based projects such as swimming pools, schools, care homes etcetera. This did not happen because Croydon was absorbed into Greater London thus losing its independence and its money. The rates haemorrhaged from Croydon to support feckless councils such as Lambeth. (But Lambeth were later to give me a small boost ... the Town Hall employed my brother, Stephen, and myself to play at the Lord Mayor's Ball... one of my very first paid gigs as a pianist.)

### 1. Education

I went to school in Thornton Heath. Firstly, at Winterbourne Infants and Junior School and then to Selhurst Grammar School, near the Selhurst Park grounds of Crystal Palace football club (see note in appendix).

From the age of six I played the piano. Initially this was simply from musical scores but the Boys Brigade troop I belonged to wanted me to play the piano to the hymns each Sunday morning and this started me playing "off piste".

At the same church (Christ Church, Broad Green) I was in the choir until the age of twelve or thirteen. In 1963 we moved from Thornton Heath to a large, detached house in South Croydon. This was in Birdhurst Gardens, a slightly Bohemian neighbourhood at the time with other musicians across the road playing drums, vibes and piano.

I did well at school and in 1968, one year after the Summer of Love, I went up to Gower Street in London to start my medical education at University College.

Much of my time was taken up with playing in small groups around London and in the revue societies of the medical and dental school. I gave up cross country running and weightlifting and took up hockey instead and found that it was much more to my liking.

I intercalated with a B.Sc. in Pharmacology in 1971. I was delighted with my upper second but the main tutor slightly spoilt it for me when he told me that I should not be celebrating: 'You, Paul, wrote undoubtedly the best papers but we could not give you a first because you did not attend all of the tutorials.'

I smiled but inwardly wondered whether it was also because I had protested strongly about the arbitrary way in which the Pharmacology department changed lecture and tutorial times, the wilful alteration of the number of essays we had to write, the sometimes entire lack of demonstrations in the laboratories or last minute changes of schedules.

I have to admit that ironically it was one such arbitrary move that had helped me to write such good examination papers. I had started revising for the final BSc exam just three weeks before the date of the examination. Having planned out my revision schedule I realised that I would not be able to get through all the work in the time available. Just reading the original papers would take too much time and I had decided that at the best I could get through half of the work and I would have to guess which half would come up in the finals. I went into the department and there was another of the unpredictable changes: the examination papers had been delayed by three weeks. This led to consternation amongst many of the undergraduates but I was delighted. I was able to revise and remember all of the required work and I could have answered any of the questions on all of the papers.... a luxury that I had not encountered for some time.

In 1971 I moved across the road to UCH for my clinical years and in the October met my future wife, Lois, at a rehearsal for a Dental School revue.

Just before my final exams in '74 I went to watch a show at the UCH Students' Union and the Undergraduate Dean, Professor Wrong (see note in appendix), sat down beside me. 'Paul,' he said turning towards me. 'This is the first show I have been to, since I've been the Dean, that you are not in.' I stammered some sort of reply to the effect that finals were looming and a sacrifice had to be made! I had not really appreciated the fact that the Dean even knew who I was.

I graduated in 1974 with MBBS having spent some very worthwhile time that same year on elective with a fellow medical student, Keith Grant, in a Nigerian mission hospital.

Having qualified I immediately married my fiancée, Lois. She was training to be a dentist and had another year to go before finishing her course.

House Officer and SHO posts followed at the Westminster Childrens' Hospital, the UCH group and Kings College Hospital and I was on a Chest Medicine rotation back at UCH based mainly at the National Temperance Hospital in 1977 when I applied and obtained a post in Bristol to study radiology.

But I must move back a step now to a chance encounter in early 1975 when I had just started as a pre-registration house officer.

## **2. My Role in the Junior Doctors' Dispute of 1975**

### **The historical setting**

Britain's sterling was the world's reserve currency until after the Second World War. In 1967 the unthinkable happened...the Labour government devalued sterling by 14%. Ted Heath's Conservative government was in power from 1970 to 74 but industrial action by the coal miners brought the country to a standstill and a three-day week was instigated to conserve electricity and, for the same reason, television companies were required to cease broadcasting at 10.30pm.

([https://en.wikipedia.org/wiki/Three-Day\\_Week](https://en.wikipedia.org/wiki/Three-Day_Week))

Hospitals continued to work normally throughout the three-day week thus providing no relief for the overworked junior doctors, many of whom were expected to put in more than one hundred hours a week.

In 1974 there were two general elections in the United Kingdom. In February no party won an overall majority but in October the Labour party, led by Harold Wilson, won by three seats. In London the IRA were busy bombing innocent victims.

### The National Health Service

Throughout 1974 and 1975 storm clouds were gathering for the NHS. The angry red queen, Barbara Castle, was firmly in charge of the Department of Health and Social Security (DHSS). As it says in the authorized biography of her life Barbara Castle's '...final act on the Westminster stage was her boldest, her most political and her least successful. '(Red Queen, the authorized biography of Barbara Castle, by Anne Perkins.) She set out to improve on Bevan's NHS by taking on the doctors in two major disputes. The one that she set most store by was the Paybed Dispute but simultaneously she found herself and the

country embroiled in a dispute with the junior doctors.



*Figure 1 the angry red Queen:  
Barbara Castle*

*(The image was provided by the  
copyright holder for use in the  
Cotton Town digitisation  
project)*

Castle's Opponents

Her major opponents were Mr (later Sir) Anthony Grabham chairman of the consultants' committee of the British Medical Association (BMA) and Elinor Kapp of the Junior Hospital Doctors' Association

(JHDA). Writing about Grabham, Barbara Castle states in her diary that there was 'no doubting Grabham's mood of barely restrained viciousness' and 'with Grabham they had a fanatic in charge.' (\*\*The Castle Diaries ). Writing about the softly spoken and very reasonable Dr. Kapp of the JHDA, Castle called her 'their militant chairman.' ( \*\*The Castle Diaries ).

### **Castle's Allies**

Castle's allies included

- The Unions
- The Labour party, especially David Owen and Jack Straw
- The battling Granny
- Some members of the Junior Committee of the BMA

The Unions were very left wing. The most powerful union leader in the 1970s was Jack Jones, General Secretary of the TGWU. After Jones died in 2009, Christopher Andrew's official history of MI5 confirmed that Jones was knowingly a KGB agent. (The Defence of the Realm: The Authorized History of MI5. Allen Lane. 2009. [ISBN 0-7139-9885-7](#). (hardcover))

David Owen (now the Right Honourable the Lord Owen) was Minister of State for Health from July 1974.

Jack Straw a Labour councillor for Islington in 1975 had previously been an extremely left wing NUS president (69-71) and before that had been branded a "troublemaker acting with malice aforethought" by the Foreign Office having disrupted a student trip to Chile.  
([http://news.bbc.co.uk/1/hi/uk\\_politics/5228770.stm](http://news.bbc.co.uk/1/hi/uk_politics/5228770.stm))

The battling Granny was the name given by the press to Medical Secretary Mrs Esther Brookstone, local steward of the National Union of Public Employees (NUPE) at the new Charing Cross hospital. An old communist who had worked for Harry Pollit, the CPGB General Secretary she brought the hospital to a standstill against private beds on the 15th floor. Harry Pollit, the CPGB General Secretary always supported Stalin. Pre-war Castle had entertained Pollit. Also, we must consider Michael Foot, Secretary of State for Employment in 1975 and later leader of the Labour Party. Foot received money regularly



from the KGB 'for the Tribune' and was considered by the KGB to be an agent or confidential contact. (<http://www.telegraph.co.uk/comment/columnists/charlesmoore/7377111/Was-Foot-a-national-treasure-or-the-KGBs-useful-idiot.html>)

In 1974 the junior doctors had pressed for a 40 hour contract with overtime in line with normal practice for other employees. This led to the Junior Doctors' Dispute.

The junior doctors wanted a new contract because working night and day as a junior doctor was becoming almost unbearable for many of them. This had not previously been the case. My father-in-law remembered his time as a houseman with a nostalgic fondness. He had worked unpaid and lived-in but there were no cardiac arrest bleeps, few drips, little work at night and a good mess atmosphere. In comparison I worked 120 hours a week, covered casualty at night, never had an undisturbed night in the first six months I was working and considered myself lucky to get an hour of continuous sleep. And to cap it all the administration were trying to close the Doctors 'Mess.

Junior doctors were entitled to claim overtime at the rate of "time plus a quarter" after 80 hours. But many consultants would not sign the EDA forms. So Juniors wanted a contract that did not require payment to be claimed in that way. Barbara Castle agreed to a 40 hours contract so in early 1975 the BMA signed for the contract unpriced. On January 8<sup>th</sup> 1975 Barbara Castle met the Junior Doctors from the BMA. She wrote in her diary... "The junior hospital doctors turn out to be nice, young, reasonable chaps" and "they would go to the Review Body arguing for a hefty overtime rate, while we would go and argue for a modest one." (\*\*The Castle Diaries). But secretly she had decided to take unfair advantage of the junior doctors' good nature. She was heard in the corridors of power saying "I will take the Junior Hospital Doctors to the cleaners." (conversation relayed to myself in early 1975 by a civil servant) Meanwhile Barbara Castle was very ambitious and was very keen to stay on the National Executive of the Labour party and to be the darling of the Labour movement. To do this Castle needed to keep the unions and the TUC on her side. This, she believed, would prove to the party faithful how true she was to left wing ideals. COHSE and NUPE, the public service unions, wanted to get rid of the paybeds. Thus for doctrinaire reasons Castle had become determined to rid the NHS of paybeds, come what may (Castle diaries and Red Queen, the authorized biography of Barbara Castle, by Anne Perkins).

Castle's officials were appalled at the idea because of the cost implications. They would lose somewhere between 25 and 50 million pounds on a budget of £3.3billion ... at a time when inflation had hit 26.9%! COHSE and NUPE agreed to stick to the Government's pay policy if the Pay Beds bill was introduced. BUT ...

the TUC would not agree that more money could be spent on the junior hospital doctors' contract. That sets the scene. Having heard the Castle quote about junior doctors from a civil servant I realised that the new contract would prove to be a problem. I therefore resolved that I would have to get personally involved in the negotiations. Although still a pre-reg house officer I immediately joined the BMA and the JHDA, became a BMA local representative and national treasurer of the JHDA.

### *The Pricing*

Indeed, when the junior's contract was priced it was dire:

- 40 hours for basic salary
- 4 hours free (thus automatically turning it into a 44 hour contract)
- From 44 hours most juniors would be on 10%
- A very few would be on 30%

- One third of doctors would lose money and the effect would be the opposite to that intended by the medical negotiators...it would be considerably cheaper to employ fewer doctors for longer hours since



working the juniors even harder carried no financial penalty.

Figure 2 Sinclair Calculator

I then sat with my Sinclair calculator (see note in appendix) and worked through all the figures becoming convinced that the intention of the government was to actually save money from the doctors' pay budget.

This I announced to the press but it was roundly refuted by the BMA as well as by the Labour Government.

I was taken down to the Houses of Parliament to lobby my MP. Instead, I saw David Owen and impressed him that the Junior Doctors were being treated unfairly and it would lead to a long period of industrial action.

According to the Castle Diaries the BMA met Barbara Castle on 20th Oct 1975. The representatives of the Junior Doctors were Mander, Ford and Bell. Mander told Castle that the detriment situation was unacceptable. Junior Doctors around the country would not tolerate having their pay cut. Ford, according to the Castle diaries, was 'clearly desperately anxious for a settlement'.\*

Castle wrote about the meeting 'Not too bad at all. Ford and Bell are clearly doing their best for us, though we learned (later) that Mander ...resigned'\*(Castle Diaries.)

The DHSS refused to audit junior doctors' pay and put a D notice on the information stating that it was against national security for the press to write about it!

At this point doctors voted through the JHDA for industrial action. This would consist of forty hours work to rule or even complete walk out depending on the hospital involved. Barbara Castle and the BMA both flatly refused to meet Elinor Kapp and the JHDA.

'Elinor Kapp and her militant men of the JHDA have continued to let off fireworks at the fringe of all this, furious because the BMA won't agree to include them in negotiations' (Castle Diaries).

At this point I was invited to talk to the London School of Economics Current Affairs meeting. Doctors were perceived by the left wing as being resolutely conservative and right wing. The LSE was not going to be an easy place to put our case.

I prepared a poster. On one side it stated:

*Not a penny less, Not an hour more*  
*1926, Miners' strike and General Strike*

On the other side the message was almost identical:

*Not a penny less. Not an hour more*

*Junior Doctors' Dispute 1975*

After the LSE Current Affairs meeting three post-grad students (Bernard Casey, Alan Cave and Peter Martin) were assigned to help the JHDA and myself. The ongoing dispute became the subject matter of their theses.

Many meetings were held at the LSE resulting in political and media pressure on the government. Now the Consultants started a work to rule over the Paybeds dispute joining the Juniors who were working to rule over their contract dispute.

The JHDA met officials of the DHSS and the Department finally agreed to hold the audit when I presented them with irrefutable proof that overall doctors were being paid more than the department was now prepared to pay. I had, by this time, not only my calculations but also my own audit that I had managed to perform before the D notice had been issued.

The official audit agreed that the figure had been wrong leading to some mirth in political circles. Barbara Castle was now under considerable strain and was becoming the butt of jokes in the media.

**Castle to Wilson:** Oh silly me! I got my sums wrong about the doctors' pay! I shall tell them that I can't count.

**Wilson** (aside): I've already told them *she doesn't count*

*Sun Cartoon December 1975*

But the extra money was not sufficient to get rid of the detriment problem. At this point the LSE suggested that the number of hours worked by doctors might be presented as fewer than originally calculated thus allowing more pay per hour. The sum of money would thus be divided by a smaller figure as in the simple equation below.

$$\text{Pay per hour} = \frac{\text{sum of money}}{\text{number of hours}}$$

I re-presented the calculations showing that doctors could indeed have been working fewer hours than originally assumed, a rather disingenuous suggestion that I did not believe for a minute but which I persuaded myself was necessary because of the heinous way in which we were being treated.

My evidence to the Doctors and Dentists Review Body was accepted and when the contract was re-priced the 4 hour free period was removed the 10% level was removed and 30% was agreed for all overtime.

The result was that the doctors 'overtime did not cost the £10m secretly planned, nor the £12m the DHSS had stated publicly, not even the £14.2m from the audit or the £18m that I believed had previously been spent. The sum spent was £30.5million in the first year alone, almost exactly three times the government's original estimate. This increase from the planned £10m to £30.5m would be equivalent to at least £200 to £300 million in today's money and continued annually for at least twenty years.

### Comment

The doctors' disputes broke the career of Barbara Castle and Thatcher became the first female prime minister not the angry red queen. Industrial action served to show the serious intent of the doctors and the fact that we still looked after emergencies kept the public on our side. The media were important in creating pressure on the Government and the LSE were very helpful behind the scenes.

It is doubtful that industrial action alone would have persuaded the DHSS to pay doctors more since the NHS did not run like any normal business. Cancelling work just saved money in the NHS of 1975. The careful analysis of the figures that I undertook and which was ratified by the LSE proved to be very important.

Not surprisingly my political activity did not go unnoticed in the hospitals I was working in and on one occasion I was actually spat at in a disgusting manner by one of the most famous professors at UCH.

Professor Charles Dent was incensed by the way that I had become involved in medical politics and clearly did not wish to hear any explanation as to why the junior doctors needed to be in dispute with the government. I was told by senior figures in two other teaching hospitals where I had been employed that I could not expect to get a reference from them.

The junior doctors have very recently been in dispute with the Government, this time a Conservative one. Once again the Government wanted poorly paid doctors to work longer and more antisocial hours for no more pay and in some cases for less. It was a mistake on the part of the Conservatives to enter into such a fight with a group of people who are so admired by the public and it is possibly one of the reasons that Boris Johnson is now the PM and leader of the Conservatives and not Hunt, the disliked former Health Secretary, who was a major opponent in the leadership battle.

In the meantime, the Government should consider that the real problem with the NHS right now is not the lack of 24 hour cover, the doctors already provide that. The two pressing conundra is how to renegotiate the Private Finance Initiative (PFI) contracts that are bleeding the hospitals dry. These are the fault of Blair and Brown but the Government has to deal with them. They were never in the best interests of the NHS or the people of the UK and unless the contracts are altered many of the hospitals will soon move into the ownership of the PFI private business partners. That would, indeed, spell the end of the NHS.

## 2. Bristol Bound

In 1975 one of the SHOs at the Westminster Children's Hospital had decided to go into radiology. When I had asked her why she showed me an article in *Scientific American* and said ... 'Radiology is the way that diagnoses will be made in the future, using machines like this!'

The article was about the amazing new invention of computed tomography. Although the article tried to build up the role of the USA all of the images were from something known as an EMI Scanner,

invented by a Britisher by the name of Godfrey Hounsfield. I studied the article with amazement and I was hooked.

As my work in the medical political arena had somewhat blacklisted me, I resolved to look outside London, a move I have never regretted. I am very grateful that I was supported in this resolve by Dr. Coles of the Westminster Hospital. An advertisement appeared in the BMJ for the Bristol Radiology Training Programme. The programme included training on both head and body CT scanners: something that was not available on any other training scheme. I applied and was invited for interview.

Almost the first question I was asked by Dr. John Roylance was whether or not I was the same Paul Goddard who was involved in medical politics. I admitted that I was. John smiled and congratulated me on having shaken up the “powers that be” in London. Apparently Bristol folk frequently found themselves on the wrong side of the London establishment and thus found my activities to be somewhat praiseworthy. ‘But now you will have a job down here you will not have time for that sort of campaigning.’

I immediately replied that I would be delighted to step away from it and take up a training post.

We were Bristol bound!

### **3. The Training Years**

As soon as I started on the programme in 1977 I asked Professor Sir Howard Middlemiss whether there was any possibility of undertaking an MD whilst on the scheme. He was delighted with the suggestion and put me in the hands of Dr Iain Watt who enquired where my skills lay. I admitted to some experience in chest medicine and he suggested that I study pulmonary emphysema and chronic bronchitis using his sessions on the EMI body scanner. I linked up with consultant chest physician Dr Gabriel Laszlo and Dr. John Bradfield, consultant pathologist, and we set about obtaining ethical



committee approval to study patients with chronic obstructive airways disease. Drs Liz Nicholson and Rosemary Coddington were in charge of the clinical and pathological studies respectively.

The radiology training was proceeding well. The first year was very enjoyable and I found the role of student most amenable. I passed the first part of the FRCR with flying colours and then proceeded to obtain the DMRD first time.

Unfortunately, the final of the FRCR was a different matter. I had managed to upset the Chief Examiner, Bill Park, when I had been sent to Oswestry on the training rotation. Apparently, I was wrong to believe that I should stay there for the contractual period of three months and take just ten days holiday.

*'The previous registrar took six weeks holiday therefore you cannot have any'* was his comment.

Unfortunately the rotation had also been altered with notice of one week so that I was expected to work there for four months. The extra month was just at the time that my wife was due to deliver her first baby. I pointed this out and was told that it made no difference.

*'Don't forget that I am the chief examiner of the fellowship,'* stated Park. *'You will never pass if you refuse to do the extra time here.'*

I pointed out that he did not have the right to alter my contract and that I would keep strictly to it, leaving ten days before the end of the correct three months period. The man was furious.

I really did think that his threats were empty right up until the time that I was failed in the exam along with 90% of the candidates. Two more failures led me to finally decide I would not sit the examination again and I wrote to the Registrar of the College stating that I was being victimised. I was then told confidentially that the college had looked into the results and had agreed that I was one of several candidates who had been wrongly victimised. Poor Dr. Park, who was suffering badly from an untreated pituitary tumour causing acromegaly, was removed from being an examiner and died eighteen months later from his condition.

I did take the exam again, performed the worst that I had done at any of the exams but was passed along with 45% of the candidates.

The Royal College of Radiologists awarded me three prizes over a period of seven years but the examinations and my 'failures' still haunt my dreams.

#### 4. The Thesis

Just after I obtained my FRCR I was due to finish my MD. I had undertaken the research and written several papers, including one for which I was given the Couch Award of the Royal College of Radiologists. It was really a matter of putting the work into a coherent form and creating five copies. I worked through the night on many occasions with the help of my wife, Lois. Eventually I had one typed thesis with innumerable original photographs but only one copy of each. The problem of creating five copies seemed insurmountable until Lois's cousin, John Varley, suggested we looked at his latest photocopying machine. John worked for Xerox and they had a machine that copied photographs beautifully and produced collated final editions that just needed binding. This saved the day and the thesis was handed in for me by Lois on the very final day! I was in London and she had to sign the copies for me as Bristol University had forgotten to tell me that each copy had to be signed by me. Luckily Lois is excellent at forging my signature.

Down at Xerox I was also introduced to their latest creation ... a wonderful computer system that surpassed all the computers I had previously seen. There were little images on the screen that could be clicked on using an inverted roller ball that Xerox called a mouse!

'What are those images?' I asked.

'We are calling the icons windows,' I was told by the researcher.

The word processing was amazing with WYSIWYG ..... what you see is what you get!

Now all this is taken for granted but it was invented by Xerox!

## 5. My Personal History of MRI

In 1982 Professor Ian Isherwood of Manchester University contacted me. He was aware of my MD thesis (submitted April 1982) and that I had won the Couch Award in 1979. He invited me to be a senior lecturer with consultant status in his new imaging unit with the main purpose of running his MRI unit. I was, of course, very flattered but I had already applied for a post at the Bristol Royal Infirmary (BRI) where I had been promised considerable access to their forthcoming MRI scanner which they promised me they already had money for. Although shortlisted for the BRI post the process had, however, stalled. Apparently the new professor of Orthopaedics (money raised by charity etc.) was demanding a senior lecturer.

‘No trouble,’ said David Burman, the Chairman of the Hospital Medical Committee. ‘You can have the money that was to be used for the radiology consultant post.’

I travelled north to look at the Manchester post. It was certainly tempting but almost the only focus of their new MRI machine was examination of the failed back syndrome. I was happy to do such research but felt that the MRI should be used much more widely than that and a “monoculture” research programme would be too stultifying for me. I promised to give them a response within a week and returned to Bristol to inform the department that I would be leaving unless they found the money for the stalled consultant post.

They managed to do this, I went to the interview and I was appointed though the funding was delayed until 1983.

## 6. BRI post

In 1982/3 I had obtained my MD in Computed Tomography of the Lungs. It is hard to believe but the initial response to CT of the chest was, at the best, lukewarm. The gurus of chest medicine believed that chest radiography was almost perfect...there was nothing to learn from the new fangled EMI machine.

My research instantly showed that they were wrong but the attitude of medical peers towards new imaging techniques persisted for a long time.

On April 1st 1983 (All Fools' Day) I officially started in my consultant post at the Bristol Royal Infirmary to discover that, despite having worked there as a registrar, senior registrar and then university lecturer the department had pulled the wool over my eyes. The promised funding for MRI did not exist. Rather despondently I set to work and found that my colleagues had completely altered my timetable. According to the new regime I was to spend most of my time in a central reporting area dealing with all the plain films that the department accrued daily. There would be little or no time for my specialty interests of chest medicine, oncology and my technique expertise in CT.

For several months I worked the grindstone with little assistance from anybody. All the other consultants mysteriously found that they had no time to work in the central reporting area and most of the registrars and senior registrars followed their lead and also refused to muck in, spending much of their time in the staff rooms drinking coffee whilst they waited for ultrasound patients, angiogram patients or whatever to arrive. The consultant appointment had become desperate and I began to think that I had made a bad decision staying in Bristol.

Luckily I had won the Kodak Scholarship and in October of '83 I set off for the USA and Canada with my wife Lois and son Jeremy. Picker International had also kindly presented me with a bursary for my travel and I spent two months travelling to major medical centres including those at Seattle, San Francisco, Los Angeles, Birmingham Alabama, Winnipeg, Toronto, Hamilton, Boston and New York. I learnt about needle biopsy techniques and saw developments in CT and MRI. I was determined that on my return I would put into action all that I had learnt.

On returning to Blighty I found that without my presence the central reporting area system had completely collapsed and the reporting had reverted to the previous and much fairer system where each consultant and their team dealt with the plain films accrued in their area of work.

## 7. Doctor Jazz and the MRI Scanner Fund

In 1984 I set up a committee to raise money for MRI in Bristol. I chaired the committee which included Professor Rhys Davies (Bristol University), Dr Clive Johnson (Radiologist, Southmead Hospital), Dr Gordon Thomson (Neuroradiologist, Frenchay Hospital), and Dr Jill Bullimore (Radiotherapist, Bristol Radiotherapy Centre).

The Special Trustees of the Bristol Royal Infirmary agreed to give an interest free loan of £100,000 to employ a professional fund raiser to raise the money for MRI.

I considered it would cost around £2 million in all, including the building and initial running costs.

In early 1985 I was approached by a charity based in Bridgwater. They told the committee that they wished to raise money with us and that their main aim was to help brain damaged children. They had heard that MRI was an excellent method of studying the brain. I naively gave them my business plans, fund raising contacts, research papers and ideas. They returned to Bridgwater and wrote me a nasty letter. They then approached all the contacts I had listed using my business plans and asking for money to set up a “stand alone” MRI centre in their field in Bridgwater.

The contacts included John James, Bristol multi-millionaire founder of Radio Rentals and well-known philanthropist, who then spoke to his son-in-law, Clive Johnson. Clive, who was already sitting on my committee as mentioned above, suggested to Mr James that he should contact me. This he did in mid 1985 and offered to provide £250,000 if I agreed to raise the rest of the money without the use of a professional fundraiser. I declined the offer and he very generously raised the sum to £1.25 million if I agreed to his terms. I did agree. (Subsequently the sum was reduced by the Dawn James Trust to £1million and eventually the scanner was purchased by Mr James for £900,000.)

The conditions that Mr James set were, however, rather difficult for me to accept.

- 1) No professional fundraiser
- 2) We (the doctors) had to raise the money ourselves to match the sum
- 3) A new chairman, retired GP Dr Terry Beddoe, would be set in place instead of myself.

Despite pleas to the contrary the initial publicity gave the strong impression that Mr James had given all the money that was needed and that no further funds were required. The fundraising was restarted by the television, radio and press appearances of Dr Jazz, the fund raising band, which initially consisted of myself (bandleader, keyboards and vocals), Hugh Coakham (neurosurgeon, Frenchay) on sax, Richard Bolton (SR in radiology, BRI) on vocals, Geoff Hancock (Regional Health Authority architect) on bass, and Chris Chivers (paramedic) on drums but was subsequently added to by Lois, Jeremy and Mark Goddard, Graham Leavey, John Lyall, Chris Hemming, Gordon Haig, Ken Baber, Graham Purches and a number of other excellent musicians.

I went down to the BBC in Bristol in December of 1985 and told them that I had a fundraising band and a song. They invited me on TV and radio immediately so I had to go home and write the song, which took about fifteen minutes.

*The Magnetic Appeal Song*

*(P Goddard 1985)*

*Diseases may come, diseases may go,*

*But how do the doctors know?*

*They place reliance in medical science,*

*Technology helps them so*

*But listen here folks 'cos now I'll reveal,  
You mustn't resist whatever you feel  
Give in right now, this one is for real  
It's the one with magnetic appeal  
(Altogether now)*

*Magnetic, magnetic appeal  
Resonating baby, don't say no maybe  
We need your help right now  
So dig in your pockets like you only know how.*

*Needles, syringes and dreadful things  
Are what we used to use  
But help our plans for magnetic scans  
And you cannot lose,*

*Magnetic, magnetic appeal  
Resonating baby, don't say no maybe  
We need your help right now  
So dig in your pockets like you only know how.*

*A million pounds from Mr. John James  
Is a wonderful start  
We'll be using the scanner for cancer and brains  
And diseases of the heart  
Pregnant ladies, children too  
It's quite amazing what the scanner will do  
So take out your money or give up a meal  
To help our magnetic appeal*



*Figures 3a and 3b Early publicity shots of the band*

*Hugh Coakham and Paul Goddard in both shots plus Geoff Hancock and Richard Bolton in Figure 3a and Lois Goddard and Chris Chivers in Figure 3b*

This effort was ably supported by huge teams of people throughout the South West assisted by the members of the Bristol MRI Scanner Fund committee, in particular Gordon Thomson and Clive Johnson assisted by Terry, the chairman. The people and associations who helped included many sports clubs (such as Thornbury Cricket Club which raised £13,000), pubs, small businesses and schools.

In addition separate committees were set up in Bath by Joan Sewell and in Bristol by Dr. Frank Ross. Both of these raised about £100,000. At the BRI Gladys Miles had a stall on level 2 in front of the lifts and also raised £100,000 single-handedly. Les Weekes, garage proprietor and my very first friend in Bristol, has continued to raise money for Dr. Jazz to this very day.





*Gladys Miles with Paul Goddard by her stand at the Bristol Royal Infirmary.*

#### 8. Success! The Scanner Goes In.



*Figure 4 The scanner being delivered in 1987*

In 1987 the building was up and the scanner was in. The first year of operation saw over 1200 patients scanned and 2000 in the second year. The on-going funding over a five year period was much supported by the donation of the private fees for MRI by most of the radiologists who worked at the MRI Centre, notably Gordon Thomson, Clive Johnson, John Bradshaw, Iain Watt and myself. These donations ran into a good few hundred thousand pounds. Unfortunately some of the Bristol radiologists refused to support the Bristol MRI Centre with their private work and took it down to the Somerset MRI Centre. You can win some of them over but not all of them.

In 1992 a second scanner was put into the MRI centre and an MRI scanner was purchased and installed at the BRI by UBHT with some staffing costs met by the BRI Magnetic Scanner Appeal (BRIMSA).

Subsequently Dr Jazz have continued as a fundraising group and have raised funds for a considerable number of medical and other charities including St Peter's Hospice, Childrens' Hospice South West, RICE, arthritis research, Bone marrow transplant, Chinese earthquake appeal, sherpas in Nepal and the Bristol Lord Mayor's Appeal.

Ably supported by new band members Moses T Jones and Damien Cheung, the band is still playing and will happily undertake private engagements for a fee which will go to our own charity and subsequently to charities or causes that we choose.

## Research and the New Journal: Clinical MRI

Mr James had a problem with research as he considered it to be a waste of time thus when undertaking original physics research, which we did with the medical physics team that included Peter Jackson, we had to pay for the time on the machine (time we had already paid for by raising the money in the first place!)

Luckily Mr James was not aware of the amount of time I spent doing *clinical* research on the machine and we immediately put through the machine a large number of patients with conditions that had not been studied previously by MRI, ranging from undescended testes to thyroid eye disease, pericardial disease to pelvic malignancy, orthopaedic diseases to brain tumours.

Within a year we had published a special edition of the Bristol Medico-Chirurgical Journal exclusively devoted to MRI and covering many topics in the head, body and limbs. This led to a wall chart detailing the way that we reported the MRI at the Bristol MRI Centre. We had simplified the process so that the complex physics would not confuse people and instead concentrated on the signal from the tissues, remarking on whether it was of low, moderate or high signal (black, grey or white) and comparing this in each sequence thus coming to a conclusion as to the likely nature of the tissue. This wall chart was sent to all of the MRI centres in the world (some 2000 at the time) by Schering, the company with the first contrast media for MR. The wall chart was influential in changing the MRI reporting style of radiologists worldwide.

Every patient who went through the scanner in the first five years had the details entered on our IBM computer. We put a program on it, called *Questions and Answers*. This program included a primitive AI that learnt as we put the information in.

When we searched for conditions the AI would question us.

*“Here are the results for Arterio-Venous Malformation. Do you use any other words to describe this condition?”*

We would type in *AV Malformation, Angioma, Angiomatous Condition*.

From then on when we searched for Arterio-Venous Malformation we would also find all the other cases.

The program allowed searching on all the fields. In addition, we kept copies of all the scans as hard copies and on laser discs. Thus, over the five year period in which the trust ran the scanner we were able to dial up research on the many thousands of patients who went through the centre.

### *Clinical Research in Bristol in the 1980s and 1990s*

To give a flavour of the earliest work at the centre I will précis one of the papers published in the special edition of the Bristol Medico-Chirurgical Journal. (*see below*)

### *The STIR Sequence*

The Short Tau Inversion Recovery or STIR sequence (*Bydder and Young, see below*) was used in the Bristol MRI Centre on seventy patients with suspected neoplastic conditions. “The STIR sequence provides very good contrast between aggressive lesions and normal tissues such as fat, muscle, liver and fatty marrow. The STIR sequence is extremely valuable in identifying areas of abnormality that could otherwise be missed on other sequences and in delineating the extent of normal tissue.”

Note: When writing this in 1988 I telephoned Professor Bydder to ask him his views on the STIR in oncology patients and told him about my seventy cases. He replied that I was much more likely to understand the results than he was : “To tell you the truth, Paul, we only looked at four cases. You’ve looked at seventy!”

### *References*

Goddard P., Bristol Medico-Chirurgical Journal, May 1988 Volume 103 (2).

Bydder and Young, MR Imaging: Clinical use of the Inversion Recovery Sequence, J. Comput Assist Tomogr, 9, 659-675.

### **National TV**

Early in 1988 Esther Rantzen wanted my band, Dr Jazz, to appear on *That’s Life*, a consumer TV programme. She phoned me and I originally declined the offer, pointing out that our appeal was for a local charity and national TV was not the best medium. We had already appeared many times on local TV with great success but our one appearance on national TV (BBC2) had led to a dip in our incoming funds. I attributed this to local people thinking we had gone national and therefore didn’t need their support and people nationally thinking that we were just a local charity so why should they support us?

Naturally “our Esther” disagreed with me and bullied me into appearing with the band. We turned up on a Sunday having received just two days' notice, thus requiring stand-ins to cover our on-call and baby-sitters to look after our children. We waited all day and they did not use us.

‘Come back next week,’ commented a junior researcher.

‘That’s not good enough,’ I replied. ‘We’re all very busy professionals.’

Esther came in to make a mock apology. I accepted this with a half smile.

‘So you will come back next week, won’t you?’ asked Esther.

‘I’m sorry but I can’t,’ I replied. ‘I shall be up in Glasgow at a national radiology meeting presenting six papers (*see references below*).’

‘But this is television,’ she replied. ‘It’s got to be more important than a meeting in Glasgow!’

She turned to Hugh, the brain surgeon, ‘If Paul won’t come you can come on your own.’

‘Sorry,’ he replied. ‘I’m in Japan.’

Late in 1988 Esther Rantzen decided that Hugh and I should be recipients of a “heart of gold” on her new programme and we reluctantly appeared. As I predicted the fund-raising took a slight dip and our appearance on the programme led to numerous biting comments that still sometimes surface from old friends and colleagues to this day.

\*At the BIR Annual Congress of 1988 I co-presented the following six papers:

- 1) The Detection of Metastatic Disease in the thoraco-lumbar spine using magnetic resonance imaging. Paul Goddard, I Watt, ER Davies, P Cook, J Waring, B Hale.
- 2) The Detection of Recurrent and Metastatic Malignant Disease in the Pelvis  
Paul Goddard, W Wong, R Yeats, A Case, E Whipp.
- 3) The STIR Sequence in MRI of Neoplastic Lesions Goddard, Waring, Case, Yeats, Bullimore, Whipp, Barley.
- 4) MRI in the assessment of pericardial disease. G Hartnell, P Goddard et al.
- 5) MRI in the assessment of thoracic aortic aneurysms. G Hartnell, P Goddard et al.
- 6) Scintigraphic - magnetic resonance correlation in clinical osteoarthritis of the knee. I Watt, Fiona McCrae and Paul Goddard