

Charles John Bond of Leicester (1856–1939)¹

Joan B Walker MD

Emeritus Physician, Leicester Royal Infirmary

Charles Bond's life spanned an era of remarkable scientific advancement, from the time of Lister's work until World War II when sulphonamides had just become available. He remembered the operating theatre at Leicester Royal Infirmary before the use of antiseptics, when it had been one small room with an open fireplace, candles or gas for light, some wash-handbasins with a cupboard containing instruments and a row of blood-stained overcoats (Ellis 1935). However, he not only used the greatest technical skill in his surgery but held the most advanced humanitarian views about the individual and the community. His desire to know more of the pathological and physiological processes in the cases under his care led to an unusual amount of scientific research and experimentation.

After his death Mrs Bond offered copies and reprints of her husband's work to be placed in the new pathological museum at Leicester Royal Infirmary, which contained certain specimens originally preserved by him. These were one or two hydatid cysts, teratomata and some fetal abnormalities. Later it was possible to relate them to the appropriate papers amongst a massive collection written on the widest variety of scientific, medical and sociological subjects covering the years 1878 to 1939.

The original museum designed by Tom Haird, the architect of the Leicester Royal Infirmary, had pleased Bond greatly. He had watched its building and development with interest. It was demolished with the old pathological laboratory for the sake of the phase II building at Leicester Royal Infirmary for the new Medical School. The museum contents were transferred to the Postgraduate Medical Centre under the care of Dr Barbara Lawson and are now in a room designated 'The Bond Room'.

After World War II, with its many preoccupations, it was decided to raise a fund for a memorial. It was essential to preserve Bond's work, so a complete set of his publications was deposited with WR Le Fanu, the Librarian of the Royal College of Surgeons. Other sets were sent to University College Hospital Medical School and bound books to Repton School Library, in addition to those at Leicester Royal Infirmary. Albert Pountney of Leicester College of Art was commissioned to carve a relief head of Bond in stone and the plaque, set in the wall of the entrance hall of the Infirmary, was unveiled in 1949 by Professor Grey-Turner, a friend of Bond who had recently retired from the Hammersmith Hospital. He also wrote a short history of Bond for the record of Fellows of the Royal College of Surgeons (Grey-Turner 1953) and delivered the first memorial lecture. Sir Lionel Whitby was to have given the second as a tribute to Bond's pioneer work in haematology, but sadly he died too soon. Thereafter another alternative for the trust fund was used to award grants to students of Leicester University to enable them to carry out some project in medical or biological science which would be approved by the University Council. Some dozen students have thus benefited.

Bond's book 'Recollections of Student Life and Later Days' was written at the end of his life as a tribute to his fellow student and friend, Sir Victor Horsley (Bond 1939). There is much autobiographical information to be found there, and the following account draws freely on it. There are very few left who even met Bond, and many of the present generation of Leicester doctors must have asked 'Who is Bond?' It is hoped that these notes will supply an answer.

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Early history

Charles John Bond was born at Bittesby House, Leicestershire on 27 October 1856. His father, George, was a farmer and his son was brought up on the farm so he received a natural foundation of biological knowledge acquired in the country and cultivated at Repton School in the nearby village. He thus enjoyed a serene childhood by which he set great store. There was an interesting letter, subsequently unfortunately destroyed, from his house master at Repton discussing the choice of a career: whether it should be in farming or in medicine. His master favoured the latter for him. He already had experience in farming and enjoyed it, but medicine would be a new challenge. It may have been that his father and house master had met to talk things over, for after working on the farm for a time, Charles was apprenticed to Dr C M Sidley of Welford Road in February 1875 and was entered as an outdoor pupil at the neighbouring Leicester Royal Infirmary until he could be admitted as a student of medicine at University College, London, in the following October. Bond did well. He gained gold medals in the classes for physiology and anatomy and silver medals in surgery, midwifery and medical jurisprudence, and he was chosen to be an anatomy demonstrator.

Bond's interest in philosophy showed itself early. When still a student he wrote a poem entitled 'Partiality in Unity', which ended a little tritely:

'May we be honest in our search for Truth
For this alone can bring us lasting Peace.'

He published the poem anonymously for private circulation in London in 1886, but must have continued to think well of it at the end of his life for he had it reprinted, with some emendations, in 1938 and published it in Leicester (Bond 1938).

As a student Bond started 'The Philomathic Society' which included Victor Horsley and four or five others. It was a discussion group at which such a subject as 'Can there be an absolute right and wrong independently of a Theistic Existence?' was presented. On another occasion Horsley asked Bond to write his personal views on 'The Nature of the Soul'. On a scrap of paper I found, Bond had written in pencil: 'The salt of the Earth is composed of men who think, and men who translate thought into action. The rarest class is that of men who think new thoughts'.

He remained gentle and diffident but he worked himself, and those working with him, very hard.

Bond's contemporaries

Bond was born in an age of giants and grew to their stature; by them he became greatly esteemed and not least by Victor Horsley who remained his close friend to the end of his life. Rickman Godlee was Joseph Lister's nephew and already a senior student when Bond went to University College. These young men entered medicine on the crest of the wave of Victorian intellectualism and scientific discovery. Darwin had published his 'Origin of Species' in 1859. Lister announced his antiseptic technique in 1867 and, after establishing his principle of antiseptic surgery in Edinburgh, he returned to London in 1877 to take the chair of surgery at Kings College Hospital. Hughlings Jackson, Thomas Huxley, Ehrlich, Sharpey-Schafer, Florence Nightingale and the Galtons had all recently presented unique and great contributions to medical science which were fully appreciated by Bond and Horsley. From their earliest student days they formed the habit of immediately writing up their observations and discussions – a self-discipline they never lost.

Medical practice

After qualifying in 1879 Bond was appointed house surgeon to Bedford General Infirmary where Horsley would go for weekends. He shared Bond's interests in general biological observations, such as the investigation he was making on the salivary glands of the woodpecker. One cannot help wondering how the time was found, since it was not only the surgical admissions that the house surgeon was responsible for but also the cases of infectious fevers such as smallpox, typhoid, typhus and others.

In 1882 Bond returned to London to read for the FRCS and he shared Horsley's rooms at 101 Charlotte Street. Horsley was then surgical registrar at University College Hospital. One night at least, Bond says, they spent without sleep, operating in the post-mortem room to aid his forthcoming examination.

On another weekend, when Bond was staying with an old Reptonian friend F G Penrose at Wimbledon, he found a sick mouse on a railway bank and, having recently read Lewis's observations on trypanosomiasis in rats in India, he microscoped the mouse's blood and found it crowded with trypanosomes, to the interest of Penrose, Horsley and Professor Ray Lankester to whom they showed the slides. Bond thought this was the first record of trypanosomiasis in a wild rodent in England (Bond 1887).

In the summer of 1882 the British Medical Association held its Annual Meeting in Cambridge, where Bond heard the attack made on Lister by Sir William Savory of St Bartholomew's Hospital, and some of the older surgeons who continued to oppose the new methods necessary for the antiseptic technique which they refused to accept as better than their own. They had not the knowledge of pathology nor of the newly emerging science of bacteriology to understand the reason for this method of practice. It was left to the younger surgeons, often working in the provincial centres – of whom many were drawn from the Edinburgh School and had been taught by Lister – to make the introduction (Godlee 1917). Bond noted Lister's dignified reply to the attack. The following year Bond took the opportunity to write to Lister about one of his cases. Lister replied on 21 November 1883:

'... Our common experience is that after any operation of considerable magnitude, there is in the evening of the operation day a certain fall of temperature due apparently to shock and loss of blood, and next morning a rise about equal in degree to the previous depression. A sort of reaction after which there is nothing abnormal noticed. Sometimes this fall and rise, which vary according to the patient's temperament are altogether absent. So that your case, while highly satisfactory, cannot be said to be very unusual...' (Lister 1883)

That Bond had a very great admiration for Lister, whose methods he had so painstakingly introduced to Leicester Royal Infirmary when house surgeon to Sir Charles Marriott, was shown in 1912 at the time of Lister's death. There is an entry in the minutes of the 139th Annual Meeting of the Leicester Royal Infirmary that Bond moved a lengthy resolution in which he referred to the importance of Lister's work and his own hope that 'When works come to be written about Lister and statues are erected in his honour, and when later generations ask what they, the Governors, thought about him, he was anxious that they should find some statement in the hospital records that they indeed, did recognise the greatness of his genius' (E R Frizelle 1982, personal communication).

We take Lister's work for granted, but Bond's appreciation of the man and his work stemmed from his recent memory of the days before antiseptics and asepsis. His own scientific studies made him conscious of the need for any surgeon to know about the process of wound healing, infection and the spread of malignant growths, etc; in fact, a wide knowledge of 'surgical pathology' was essential. Unwittingly he became involved in controversy when presiding at a dinner of the old medical students of University College, when he mentioned the need for a surgeon to be a pathologist. The subsequent speaker criticized the necessity: it appeared that he was of the old school who thought a surgeon was a craftsman. However, Bond said he felt supported by Sir Rickman Godlee and Sir Victor Horsley who were sitting either side of him, and both were eminent surgeons and distinguished pathologists. So in 1921, when invited to give the Mitchell Banks Memorial Lecture in Liverpool, he firmly gave the title 'The Surgeon as Pathologist' (Bond 1921). On this occasion he had the support of Sir Robert Jones and Professor Thelwell Thomas, both of whom, with Bond, became inaugural members of the Moynihan (Surgical) Club, Bond being one of only three elected from non-teaching hospitals.

The two great friends

In October 1882 Bond and Horsley visited Italy. It was a strenuous enterprise but fully enjoyed by them both. One of the great pleasures was in meeting Sir Frederick, later Lord,

Leighton – a friend of Horsley's father who was himself an artist. They could not have had a better guide to take them round the galleries of Florence, and Sir Frederick could not have had more intelligent visitors to conduct. It was not all beauty, however: on going to the Policlinico Umberto Hospital in Rome, they saw maggots dropping from the exposed and suppurating wounds of the surgical patients. Antiseptic methods, already in established practice in University College Hospital, London, had not penetrated to Rome.

In this same year of 1882 Horsley was appointed Assistant Professor of Pathology at University College, London, and Bond took up the appointment of House Surgeon to the Leicester Royal Infirmary. In 1885 Horsley became Assistant Surgeon at University College Hospital, and within a few months was appointed full surgeon. Bond was appointed Assistant Surgeon, Leicester Royal Infirmary in 1886, becoming full surgeon a few months later. Both men kept in close touch. Horsley's work developed along neurosurgical lines now made possible through the work of Pasteur and Lister. Bond became a distinguished general surgeon whose interests knew few limits. In 1893 an opportunity occurred for Bond's possible return to the staff of University College Hospital as Assistant Surgeon, but after much thought he decided to remain in Leicester. Horsley's letter to Bond sheds light on the conditions of consulting surgical practice at that time.

25, Cavendish Square

28 June 1893

My dear Viking,

There can be no doubt, I fear that your philosophic reasoning is more than correct, I did not propound any observation on your chances if you moved because I thought other considerations more pressing, but it is worth while to look for a moment at the present status of consulting surgery in London. Formerly i.e., up to 20 years ago there were large numbers of consultants living, not by the merits of their opinion in difficult cases so much as by their skill in operating. In fact men of the class of Heath and Tom Smith were very numerous. Now undoubtedly they are nearly extinct and what remains? Why simply the fact that operations are in many cases done by the general practitioner, or certainly in the provinces, and the consulting surgeon in London is specialising fast and devoting himself to training his opinion in very obscure cases. Now for both the latter points he must be known in the profession to have directed his attention in these ways for years.

If you came to London on your general reputation I am sure you would not be appreciated for the reason that the demand seems to me no longer to exist. If you began to work at a special branch you would be five years before the profession recognised your work at its proper value.

As regards pure consulting opinion that would, of course, be easier to obtain, but that again requires a considerable degree of waiting, hardly less, even for you, than five years. All your labour in Leicester in this manner would be nearly lost by reason of their not being able to take a man at his proper position when he starts in another place.

Later in the year Horsley wrote again about Bond's difficulties on account of the lack of laboratory facilities in Leicester.

'... For several years I have concluded that the only way to reach this is as follows: Never to give up working at original research for more than six months in order not to lose touch, and not to trust to be able to withdraw later from practice for this end. In actual method, and in order to carry this out it is clearly necessary to devote a day a week to pathology. I choose Saturday. On Saturdays I see no one whatsoever, save of course urgent cases and country visits which I cannot afford to refuse. As regards laboratory accommodation, there you are hardly placed in Leicester, and I cannot tell what to advise. One remedy would be your taking a week occasionally, and come and stay here, and work out the beginning of some research in my laboratory and organise the method.'

Bond seems to have taken advantage of Horsley's offer, and at least spent some weekends in London because he describes being present at a visit by Professor Ehrlich to the Brown Institute when Horsley was experimenting. He met Ehrlich later when they were both original members of the Medical Research Committee, later to be renamed the Council. As early as 1894 Horsley had been experimenting and investigating the effect of projectiles on the body tissues and the related problems of intracranial pressure and compression. Bond took part in some of these investigations, antedating by many years those of a similar nature carried out in World War II.

The friendship of Bond and Horsley was not one-sided but complementary. Bond could give to the dynamic, sometimes explosive, Horsley that stability which one might have expected. Bond's physique was perfectly described by Horsley in his nickname of 'Viking': he was tall and finely built, fair with a broad high brow and penetrating brown eyes. Horsley was hot-tempered and battled fiercely for what he thought right. Bond gave him the advice of

a mountaineer – to conserve his energy by climbing more slowly and taking a less direct approach. This friendship was maintained until Victor Horsley's untimely death during war service in 1916.

Marriage and family

In 1890 Charles John Bond had married Edith, daughter of George Simpson JP, of Hazelbrow, Derbyshire. They had one son, Eric, who became a doctor and whose second son also practises medicine. Their daughter Margaret became her father's secretary, and has told me that she often was called upon at short notice to take notes and type late into the night for some special project. She married her cousin Henry (Hal) Simpson of the Shropshire branch of this Quaker family. Their son carried on the other Bond tradition and became a farmer. Margaret Simpson, like her mother, became a magistrate and was much involved in local social problems.

At first the Bond family home and consulting room was at No. 5 Welford Road and then at No. 63 King Street. From 1910, when Bond was about to give up consulting practice, their home became Fernshaw, 10 Springfield Road. This was a large Victorian house with an ample garden where birds and animals were kept for breeding experiments. It was knowledge of this garden and the animals that prompted a little boy, Richard Ellis, later to become Professor of Child Health in Edinburgh, to put his sick spaniel in his wheelbarrow and wheel him round to Mr Bond to make him better. This pleasant Victorian residential neighbourhood, fifteen minutes walk from the Infirmary and fifteen minutes in the other direction to Leicestershire countryside, was unchanged until ten years after the end of World War II, when the old gas street-lamps were replaced by tall concrete standard electric lights and the family homes were taken into multiple occupation with neglect of the gardens.

Edith Bond was a remarkably fine woman whom people felt they could approach when in need of advice. She had a keen intellect and was capable of appreciating her husband's interests. While centred on her family she was able to encourage and enhance his activities and entertain his distinguished visitors, as the following letter shows:

at Kitelands
Micheldever Station
Hants.
Sept 17 1933
Dear Mrs Bond,

I must write and thank you for your hospitality at Leicester and it was the real hospitality that looks after the guest in every possible way, and yet manages to leave him feeling free. It was a grand week and I enjoyed it thoroughly.

Will you please tell your husband that I have been to S. Kensington re-examined pheasants which confirm my previous ideas, and that I have written out a screed which I am getting typed and will send him in a few days.

I had a busy mid-week in London, and then came down here on Friday night . . .

Thanking you again, so much, and with best regards to my Leicester friends

Yours sincerely,
Julian Huxley

Victorian families set great store by their annual summer holidays together, and the Bonds and Horsleys often joined up. In 1911 they all went to the Orkneys, and at Holme of Scotness the two surgeons seized the opportunity to investigate the hereditary aspect of the odd eye colour they observed in the native rabbit population of the island. Bond published an article 'On Heterochromia of the Iris in Man and Animals from the Genetic Point of View' (Bond 1912*b*), and it was possibly in relation to the work for this paper that he was enabled, through an introduction from Horsley, to study the eyes and optic discs of some birds and animals at the Zoological Gardens in London.

Some of the published work

It is impossible to give a resumé of Bond's work in a paper of this kind, but reference to his complete list of some 160 publications¹ gives an indication of his breadth of interests and his

¹ The complete bibliography and reprints of the papers by C J Bond may be seen on application to the Librarian, Leicester University Library, Clinical Sciences Section.

diligence. His early papers were primarily on surgical subjects; then came specializing, where a number of gynaecological cases which had interested him led him to appropriate research. Papers on bone grafting, haematology, wound healing and others showed his concern about public health matters and the community. He had definite views on a comprehensive health service far ahead of his time.

There is an outstanding paper on the position of the body as it influenced the position of the heart and intracardiac pressure. It was written as early as 1885 following experiments and investigations done in collaboration with Horsley at the Brown Institute where Horsley was then Professor Superintendent. Cardiac catheterization was used in their animal experiments, but Bond swallowed collapsible air tampons to record on smoked drums the changes in the left auricle (Bond & Horsley 1885). This piece of work was followed up by Bond thirty-two years later when he had under his care a soldier who had been shot while lying on his back. With the help of X-ray screening, the movements of the bullet in the wall of the left ventricle were measured and were also observed by Sir James Mackenzie who took electrocardiograms (Bond *et al.* 1918). The bullet was not removed and the man remained well enough to do light work, at least up to the time of Bond's death in 1939. These investigations had been made too early for human cardiac catheterization and cardiac surgery.

Bond was an early haematologist and his original work and observations on the leukocyte and its movements developed naturally from his experience of wound infection and wound healing. It was not only his recent work with war casualties but his interest in surgical pathology from his earliest days of practice which led to the writing of 'The Leucocyte in Health and Disease' (Bond 1924).

Osteomyelitis had been probably the most serious complicating factor in orthopaedic surgery before antibiotics were available. However, in 1904 Bond performed two of the first successful transplantations of the fibula, and refrained from reporting until he had a ten-year follow up and could refer especially to the manner of growth and physiological development of transplanted bone (Bond 1914). The little girl of four years old was watched until she had grown up, married and produced a family. The case was shown by Bond at clinical meetings of Leicester Medical Society in 1908 and again in 1931.

Bond's work on genetics and eugenics was concurrent with all his other interests. Hughlings Jackson and Bond had corresponded in 1903 about the inheritance of acquired characters, and Jackson had asked Bond to conduct some experiments on rats; this was not possible because of the lack of laboratory facilities so the project had to be dropped, but at about this time Bond and Horsley were collaborating on investigations on the uterus and ovaries in rabbits (Bond 1906a). The necessary surgery had to be undertaken in the laboratory at University College, London, but before and after operation the animals were bred and kept in Leicester.

In 1905 the British Medical Association met in Leicester, and Bond's address as President of the Section of Surgery was entitled 'On Ascending Currents in Mucous Canals and Gland Ducts, a Study in Surgical Pathology' (Bond 1905). The following year he and his wife travelled together with Sir Victor and Lady Horsley to the British Medical Association Meeting in Toronto, where his address was on 'Septic Peritonitis' (Bond 1906b) and Horsley reviewed the whole subject of neurosurgery of which he was a pioneer. In 1907 The British Association for the Advancement of Science met in Leicester and Bond was President of the Physiology Section. Since Leicester had no University and the Royal Infirmary was not a teaching hospital, there is no doubt that it was Bond himself who drew such august bodies to the city.

Retirement from private consulting practice

In 1910 Bond took the most exceptional step for any surgeon to relinquish the remunerative part of his work; but no doubt he considered the decision carefully, for by giving up a very demanding private practice he was able to devote more time to scientific study and his

increasing committee work which he took most seriously. Very early on he had been found to be a valuable asset to any committee, because of his interest, courtesy and patience. He retained his surgical appointment to the Infirmary for another three years but was elected Honorary Consultant Surgeon and Vice-chairman of the Board of Governors at his retirement, so that he remained an integral part of the institution for the rest of his life.

Lloyd George's National Health Insurance Bill of 1911 was surrounded by controversy between the medical profession and the Ministry of Health. Bond had been appointed to the Central Advisory Council of the National Health Insurance Committee, set up by the Ministry, with Sir Robert Morant as chairman. Between 1911 and 1912 Bond and Lord Addison tried very hard to find common ground between the two groups. Victor Horsley and Bond both thought the Act would benefit doctors and form a basis for a comprehensive health service in the future, but the idea was not well received by the profession. At a mass meeting in the Queen's Hall, Horsley was howled down by the doctors for his advanced socialist views. However, Bond did better as he had been invited by H G Wells to contribute to his book, by several authors, entitled 'Health and Healing in the Great State'. In this Bond contributed the longest chapter and outlined his views on a national health service (Bond 1912a). It would be surprising if Sir William Beveridge had not read this book when he was planning the 'Welfare State'. How pleased Bond would have been by the actual inauguration of the National Health Service, but how sad he would undoubtedly have become by the industrial troubles that have beset it.

First World War, 1914–1918

The Bonds were in Australia for the meeting of the British Association at the outbreak of war. They were none the less able to visit hospitals in Melbourne, Sydney, Port Said and the Medical Research Institute in Bombay on their way home, and report to the Medical Research Council on the conditions they had found.

On his return Bond was plunged into an enormous amount of work. He was 58 and enjoyed splendid health. Already he had been appointed one of the first members of the Medical Research Council, a committee of the Privy Council, and he remained a most valued member for eight years. The late Sir Henry Dale once told me how greatly Bond had been appreciated and how he would travel to London from Leicester throughout the war, never missing a meeting though members living nearby might do so. He represented the Council on the 'Inter-Allied Commission on the Treatment of War Wounds' which met in Paris between 1916 and 1918. He became Honorary Consulting Surgeon with Sir Berkeley Moynihan to the Northern Command in 1916 and was gazetted Colonel AMS. The Military Hospital in Leicester, known as the North Evington Hospital, was the evacuated mental hospital on the hill which later became Leicester University College and ultimately the oldest building of the University itself. Bond was twice 'mentioned in despatches' and was created CMG in 1917.

War surgery stimulated his original work on antiseptics, which were as important in World War I as were antibiotics in World War II. With his colleagues he published many papers on these subjects (Bond 1916a,b, 1917, Bond *et al.* 1918).

The later years

After the end of World War I there were doubts in Bond's mind about the British race. He wrote: 'If our British race is to maintain its proud position at the head of the nations we must see to it that we do not, among other good qualities, lose our capacity for citizenship' (Bond 1930). It would seem that thereafter he concentrated his efforts in applying his previous studies in genetics to eugenics and the need for disseminating knowledge of these subjects which were still neglected in the medical schools. He became a founder member of both the Sociological and the Eugenics Societies. He was elected a Fellow of University College London in 1924. In 1928 he gave the Francis Galton Memorial Lecture, taking the opportunity to present his views under the title 'Some Causes in Racial Decay': it was

published with other related work of his in 'Essays and Addresses by a Surgeon' (Bond 1930). His work was concerned not with population control of the world, but with the means of improving the health and psyche of the middle classes and preventing the breeding from defectives with inheritable disability.

Between the wars Leicester had a progressive medical officer of health in Charles Killick Millard; under his guidance the city developed an advanced social service, some of which was due to the friendship he developed with Charles Bond. Together they could discuss many of the urgent problems that were still prevalent. Infectious fevers, tuberculosis, venereal disease all needed elaborate measures for their treatment and control before the advent of antibiotics. Mental health, alcoholism and senility were all matters to be tackled. Birth control, sterilization of the unfit and euthanasia were discussed. What Millard was able to do in Leicester had been aided by Bond's membership of many national and related committees. He became a member of the Departmental Commission on the Cause and Prevention of Blindness; also on the Cause and Prevention of Cancer. He was deputy chairman of the Industrial Fatigue Research Board and Lord Trevethin's Committee on the Prevention of Venereal Disease. Bond and Horsley were both abstainers from alcohol and strongly supported the Temperance Movement, Bond being at one time president of the Society of Inebriety and vice-president of several other temperance societies. Killick Millard founded the original Voluntary Euthanasia Legalisation Society which began in Leicester with Bond as first chairman.

Although his commitments took him away so frequently, local demands in Leicester were met. He served for two years, from 1922 to 1924, representing Knighton Ward on Leicester Corporation and frequently took the chair at local meetings. Besides the Infirmary Board of Governors, he was a member of the Leicester Health Insurance Committee and Vice-President of Leicester University College. In 1925 Bond was made an Honorary Freeman of the City of Leicester and in 1935, for the second time, he was President of the Literary and Philosophical Society. 'His contributions to the Medical Society were always outstanding. The minutes contain a photograph of the X-ray of the fibula implant in his case of osteomyelitis [already mentioned], but what impressed me most of all was a long report of his lecture on "Cancer" in 1892 in which he propounded his theory of phagocytosis in relation to its dissemination and biological control and the first line of defence against its spread – the fibroblast reaction which he noted at the spreading edge of the deposits in the lymph nodes. After 90 years there is little that can be added to his observations' (E R Frizelle 1982, personal communication). These comments confirm those made in the following letter from the Mayo Clinic:

July 22 1930

... I had occasion recently to go back over some of your work of years ago, articles on reverse peristalsis, cellular pathology and many other subjects, and I found that they are just as good to-day as when they were written. Too often we leave important subjects for others less important and when we return to our original work forget the evidence of previous investigation.

With kindest regards, in which my brother joins me

Will Mayo

Of his generation, Charles Bond was probably the most distinguished scientific surgeon and certainly so from the provinces; a man who cared greatly for the individual and the race. It is fair to consider him the progenitor of the Leicester University Medical School, and to have seen it based on the enlarged Leicester Royal Infirmary with all its new departments, and not least the great pathological department, would have fulfilled one of his dearest ambitions. How intensely interested he would have been in the developments in genetics, microbiology, immunology, etc., and all the subjects he had worked on with so few facilities. That a National Health Service had rebuilt and re-equipped our hospitals which had become sorely in need, would have filled him with admiration. He had tried to work out schemes for the financial support of a voluntary hospital, but on a far simpler scale.

The last years were spent at Fernshaw in and out of his study and garden, with visits to the Infirmary and visits from his young grandchildren and other friends. It would seem that this peaceful period enabled him to take the opportunity for even more reading and writing.

In 1936 and 1937 respectively, he published his two most advanced philosophical contributions: 'Biology and the New Physics. A Plea for a consistent Philosophy of Life', and 'The Nature and Meaning of Evil and Suffering as seen from the Evolutionary Standpoint'. The atomic bomb would have been no surprise to him, nor the exploration of space with man's visit to the moon, but he argued for a consistent scientific and commonsense view and that such philosophy of life must serve as a guide to conduct. 'Being founded on the assumption that the Universe is controlled and governed on experimental lines . . . progress can only be achieved by the "Trial and Error" method, that is by testing all things and holding fast to that which is good' (Bond 1936).

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