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SIR JOHN VIVIAN DACIE
20 July 1912 — 12 February 2005
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Elected FRS 1967

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John Dacie was the leading figure in haematology in this country during its period of major expansion after World War II. By his meticulous approach to the study of patients with haematological disorders in the laboratory he was able accurately to define many new diseases, particularly haemolytic anaemias, so laying a firm foundation for their further definition by the tools of the protein chemistry and molecular biology eras. And by establishing the haematology laboratory at the Royal Postgraduate Medical School as an international centre of excellence, where many future leaders of the field were trained, he had a critical role in the development of the clinical and laboratory aspects of haematology, both in the UK and internationally.

BACKGROUND AND EARLY CAREER

John Vivian Dacie (J.V.D. to his colleagues) was born in Putney on 20 July 1912. His father, John Charles Dacie (1860–1928) was an accountant and an ardent collector of snails and, above all, shells. At one time he was secretary of the London Branch of the Conchology Society. His mother, Lilian Maud Dacie (née Vivian; 1877–1960) was a gifted amateur musician. John had three half-sisters through his father’s previous marriage, and one sister, Barbara Gertrude, born in 1910, who was a schoolteacher. Although there were no medical people
among his ancestors, his paternal grandmother, Emily Farn, was related to A. B. Farn, a well-known entomologist of the nineteenth century; another of his distant relatives, H. C. Huggins, was a distinguished amateur microlepidopterist.

John was educated at King’s College School in Wimbledon. His main interests during his schooldays were lepidoptery and music, both of which were to have an important role later in his life. After the death of his father in 1929 his mother decided to sell his collection of shells. Two of his father’s conchological colleagues offered to catalogue the collection and while this was being prepared for auction one of them, Colonel Peele, took an interest in John’s future and suggested that he should think of a career in medicine. In 1930 he won a scholarship to King’s College Hospital and also obtained a leaving exhibition from King’s College School together with a London County Council Senior County Scholarship.

He began his preclinical course at King’s in 1930 and subsequently had a brilliant career as a medical student, winning prizes for anatomy, clinical pathology, surgical pathology and medicine. Indeed, the only prize he did not win was obstetrics because, as he explained later, he could never bear to see women in pain! He also obtained a Senior Scholarship, which enabled him to repay a loan from his aunts towards the costs of his final examination fees. After qualification in 1939 and passing his examination for Membership of the Royal College of Physicians in the following year, a few days after his 24th birthday, he held posts as a house physician, resident biochemist and resident pathologist. The physicians with whom he worked during this time included R. A. McCance (FRS 1948, later Professor of Experimental Medicine at Cambridge University) and R. D. Lawrence, a well-known diabetologist.

After completing his early clinical training John applied for an MRC Studentship, which he obtained after being interviewed personally by Sir Edward Mellanby FRS. After working with his unequivocal first choice of supervisor, Janet (later Dame Janet) Vaughan (FRS 1979), at the British Postgraduate Medical School for six months, the MRC suggested that he should go to Denmark to work with Engelbreth Holm on leukaemia, but because he had recently become engaged to be married and did not want to go overseas he went to work with John Wilkinson and Martin Israels at Manchester. He next secured a Will Edmonds Fellowship and returned briefly to King’s. In 1939, on the outbreak of war, King’s was largely evacuated but John was left behind as blood transfusion officer. In January 1940 he was moved to the Central Pathology Laboratory at Epsom. In early 1943 he was transferred to the Royal Army Medical Corps; his unit landed in Normandy six days after D-day and acted as a Casualty Clearing Station. After the advance into The Netherlands he spent some time studying blood loss in wounded soldiers and was then posted to Italy.

While in Italy, John saw an advertisement in The Lancet for the position of Senior Lecturer in Clinical Pathology at the British (later Royal) Postgraduate Medical School at Hammersmith Hospital, the post that Janet Vaughan had vacated on becoming Principal of Somerville College, Oxford. John was appointed to this post in September 1946 and remained at the Hammersmith Hospital for the rest of his career. In 1950 he was appointed Reader in Haematology and in 1957 became the first Professor of Haematology in the UK.
MARRIAGE AND FAMILY

In 1938 John married Margaret Kathleen Victoria Thynne, a staff nurse at King’s College Hospital, whom he had met while he was working as a House Officer on a medical ward. They had two children during the early years of World War II: Janet Elizabeth, who became a diagnostic radiologist at St Bartholomew’s Hospital, and John Charles Thynne, who worked in advertising and died in 1985. After the war they had three more children, Julian, who became a general practitioner in Leicester, Mary Jocelyn, a teacher of children with learning difficulties, and Adrian James, a teacher of mathematics. John and Margaret had seven grandchildren.

When asked in an interview late in his career what was the most important thing in his life, he replied without hesitation, ‘marrying Margaret’. Later in their marriage they established what they called their ‘cottage industry’: John working in his study on his books, Margaret in the breakfast room typing them. Margaret became deeply interested in John’s abiding hobby, his collection of butterflies and moths, and he shared with her every aspect of his medical work and love of music. It was a close-knit family, and family holidays, particularly in Walberswick, were the highlights of the year.

Although their social lives were of necessity restricted, John and Margaret entertained his staff each year, although only carefully selected visitors were allowed to see his remarkable collection of butterflies!

RESEARCH

In retrospect, it is not surprising that when John was interviewed for an MRC studentship in 1937 he said that his first choice was to work with Janet Vaughan. The second edition of her remarkable book, *The anaemias*, was published in 1936 and the short chapter on haemolytic anaemia includes some of her own unpublished work on hereditary forms. The elegant simplicity of some of this work may well have been a major factor attracting him to work with her and to embark on a research field that he made his life’s work.

*Hereditary haemolytic anaemia*

John’s first studies involved a form of anaemia that was known at the time as acholuric jaundice, a condition later called hereditary spherocytosis. As described in Janet Vaughan’s book, by 1936 it was known that the condition is characterized by spherical red blood cells, an increase in red-cell fragility and a variable degree of anaemia (Vaughan 1936). During his short period working with Janet Vaughan at the Postgraduate Medical School he established a more accurate quantitative method for the osmotic fragility test that was used to identify this condition (1)*. He continued to develop and refine these studies after securing a Will Edmonds Fellowship at King’s. He noted that incubating blood for 24 hours at 37°C increased the osmotic fragility, and he observed spontaneous lysis (autohaemolysis) of red cells in patients with haemolytic jaundice (3). He also improved the sensitivity of the osmotic fragility test, making it possible to identify mild cases by the presence of only a small tail of fragile cells (4).

He continued to study the autohaemolytic properties of blood on return to the Postgraduate Medical School and, by studying the autohaemolysis of blood incubated for 24–48 hours with

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* Numbers in this form refer to the bibliography at the end of the text.
and without added glucose, was able to distinguish between hereditary spherocytosis and non-spherocytic haemolytic anaemias (14). In short, it was found that the addition of glucose to the blood of patients with hereditary spherocytosis usually decreases the rate of autohaemolysis, whereas in hereditary non-spherocytic anaemia the addition of glucose either fails to correct the haemolysis or even aggravates it. These two reactions were classified as type 1 and type 2 autohaemolysis, respectively (28).

The importance of the development of the autohaemolysis test is often underestimated. John and his colleagues realized that type 1 autohaemolysis might reflect a membrane defect that leads to increased energy requirements for compensating for cation leakage, whereas the type 2 variety might reflect a defect in glucose utilization. As pointed out by Beutler (1980) it was thinking along these lines that stimulated workers such as William Valentine and others in the USA to explore the glycolytic pathways of patients with hereditary non-spherocytic haemolytic anaemia and that led to the discovery of pyruvate kinase deficiency and, subsequently, to a variety of hereditary defects in the glycolytic pathway of the red cell. Later, Dacie appointed a biochemist, Alan Grimes, to his staff to extend studies along these lines (24, 31).

In collaboration with Patrick Mollison (FRS 1968), using the method of differential agglutination (the Ashby technique) he found that in cases of congenital spherocytic haemolytic anaemia red cells from normal donors had a normal survival, a fact that had not previously been suspected. In contrast, red cells from one of the patients survived very poorly when transfused into a normal subject (5). Later, by using a collimated scintillation counter for surface counting after 51Cr-labelling of patients’ red cells, it became possible to demonstrate the major sites of red-cell destruction in those with different types of congenital haemolytic anaemia (16).

In short, John’s meticulous studies of the properties of red cells in different forms of familial haemolytic anaemia over 20 years laid the basis for their analysis by protein chemistry and molecular biology, which later were to describe the extraordinary heterogeneity of inherited defects of the red cell of this type.

Unstable haemoglobin disorders

The discovery of the unstable haemoglobin disorders is another example of John’s meticulous care and expertise in examining the morphology of red blood cells. A young girl was referred to him with a haemolytic anaemia; the blood film showed an unusual picture that included several forms of red-cell inclusion bodies. It was found that, on gentle heating of a lysate made from these red cells, a brown precipitate of haemoglobin was produced (Grimes & Meisler 1962). In a collaborative study with Hermann Lehmann (FRS 1972), the underlying defect in the haemoglobin molecule was shown to be the substitution of serine for phenylalanine at position 42 in the β-globin chain. This substitution destabilizes the haemoglobin molecule and also results in decreased oxygen affinity and co-operativity, explaining the patient’s ability to function well at a relatively low haemoglobin level (29).

The heat stability test was subsequently applied widely as a diagnostic agent and, by 1988, 86 different amino-acid substitutions in the α or β chains of haemoglobin had been reported in association with unstable haemoglobin disorders.
Autoimmune haemolytic anaemia

In 1946 Boorman et al., using the antiglobulin test which had been described a year earlier by Coombs et al., showed that some forms of haemolytic anaemia are due to autoantibodies directed against red cells (Coombs et al. 1945; Boorman et al. 1946).

Assisted by Sheila Worledge, John used the Coombs test to analyse autoimmune haemolytic anaemia (AIHA). Between 1947 and 1968 they studied 295 patients with this condition (32). A total of 168 were considered to be idiopathic, with no demonstrable underlying illness, whereas 127 were thought to be secondary to associated disorders including lymphomas, systemic lupus erythematosus and other autoimmune diseases. This work included a meticulous study of the clinical and haematological features of these patients, the characterization of the particular forms of antibodies, and a very detailed follow-up of the clinical course of the disease. The results were particularly valuable in helping to rationalize the management of AIHA with respect to the likely response to corticosteroid therapy, alkylating agents, and removal of the spleen. These studies were the forerunner of a great deal of progress in several fields towards the better understanding of the mechanisms of destruction of red cells in AIHA and of autoimmune disease in general (see Lewis 2005).

In 1950 John investigated his first case of cold haemagglutinin disease (CHAD), a condition that had been described in the 1920s characterized by Raynaud’s disease, haemolytic anaemia and haemoglobinuria. Like the other haemolytic anaemias, his interest in this condition continued for many years, during which time he further characterized the serological findings. With his associate John Crookston he confirmed what he had observed earlier, namely that the antibody is independent of ABO, Rh, MNS and other blood groups (15). After the discovery of the Li system by Wiener et al. (1956), he embarked on a systematic study of this system in a variety of haematological diseases as well as CHAD, and analysed the mechanisms of intravascular haemolysis and the role of the spleen in CHAD (17).

Again, these studies laid the basis for future work on the chemistry of the Li complex and for further developments towards an understanding of the haemolytic mechanisms that underlie CHAD.

Paroxysmal nocturnal haemoglobinuria (PNH)

John first encountered PNH during his postgraduate studentship in Manchester with John Wilkinson and Martin Israels. He demonstrated that the lysis of PNH red cells in vitro is dependent on pH and that it does not occur in the absence of serum (2). Similar findings were observed independently at about the same time by Hale Ham in the USA.

John and his colleagues continued to investigate many aspects of PNH, and he was able personally to study 80 patients who were referred to him over 40 years (35). He observed that only a part of a patient’s red-cell population undergoes lysis in acidified serum (8), that the disease frequently occurs in the setting of a hypoplastic or even an aplastic bone marrow (6, 18), and that laboratory findings suggestive of the disease may occur in patients with myelofibrosis (Lewis et al. 1971) (35).

These observations led him to postulate that PNH might reflect an attempt at cellular regeneration by damaged bone marrow, leading to a somatic mutation with the production of a new clone of abnormal stem cells with a biological advantage that enables them to replace normal stem cells, so producing a line of cells with the PNH defect. He suggested further that the mutation might occur quite frequently and that some PNH clones might lose their viability; the future course of the disease would then result on the relative survival of normal compared
with abnormal stem-cell populations (21, 23, 36). His laboratory also conducted further work with other approaches to distinguish the different mechanisms that can lead to the PNH phenomena in various disease states (26, 33).

This work is yet a further example of studies performed over many years that laid the ground for the later application of more sophisticated technology, which led to the elucidation of a disease mechanism at the cellular and molecular levels.

Microangiopathic haemolytic anaemia and cardiac haemolysis (MAHA)

John’s contribution to our understanding of this important haematological disorder yet again reflects the meticulous detail that he applied to the examination of peripheral blood films. As early as 1953 he had observed strange distorted red cells, some approximately triangular and others consisting of no more than cell fragments, in a patient with an atypical congenital haemolytic anaemia (12). In the early 1960s, together with his colleague Michael Brain, he observed similar morphological changes in a variety of conditions including thrombotic thrombocytopenia purpura (TTP), the haemolytic–uraemic syndrome, renal cortical necrosis, malignant hypertension, and in some cases of chronic renal failure or disseminated carcinoma. The MAHA pattern of red-cell morphology was identified in films from 120 patients suffering from these conditions (20). They postulated that damage to the red cells that caused these morphological changes reflected their close contact with the damaged vessel walls through which they circulated, a hypothesis that received further support from elegant studies of fibrin deposition and its effect in causing red-cell distortion and damage (Bull & Brain 1968) (27).

In the 1950s it was recognized that intravascular haemolysis might develop as a consequence of cardiac operations, particularly those after the insertion of Hufnagel ball valves. Investigations in John’s department showed clear evidence of intravascular haemolysis in these patients, together with morphological changes of the red cells that were indistinguishable from those of MAHA. He postulated that it was likely that the red cells were being damaged at the site of the Teflon septum. One of these patients was subjected to a second operation. It was found that a jet of blood regurgitating through a cleft in the mitral valve was impacting against a valve that was bare of endothelial covering; covering the area with endothelium was followed by immediate cessation of haemolysis (19). After this report many patients were reviewed and the mechanisms of haemolysis in cardiac surgery became clearly established.

Red-cell morphology

It has been a recurrent theme throughout this brief account of John’s research contributions that many of his classical descriptions of different forms of haemolytic anaemia had their origins in his meticulous examination of stained blood films, an art that he first developed as an undergraduate. With his colleague John White he also developed improved methods for analysing bone marrow biopsies (9). He also studied blood films stained with Prussian blue to demonstrate siderocytes in splenectomized patients (7); this led to an analysis of the incidence and significance of iron-containing granules in erythrocyte precursors in the bone marrow (13), work that was followed by extensive studies of the sideroblastic anaemias at the Hammersmith Hospital.

Dacie’s reputation as a remarkable morphologist was reflected by the numerous films that were sent to him for his opinion from all over the country. His daily 5 o’clock case discussions
with his staff usually revolved round morphology and its relationship to associated diseases, a process that was later introduced to the annual meetings of the British Society for Haematology, where it has been a resounding success for many years.

Monograph on haemolytic anaemia
John published the first edition of his monograph, *The haemolytic anaemias*, in 1954; the third edition (37) was published in no less than five volumes, the first appearing in 1985 and the last in 1998. The importance of this monograph for the development of knowledge in the field of the haemolytic anaemias cannot be overestimated. The mixture of critical review, meticulous referencing, discussion of his own unpublished work, and, not least, the numerous illustrations of blood films that he had collected over the years made this an invaluable work of reference for both clinicians and research workers in this rapidly expanding field.

Lepidoptera
John applied the same level of scholarship and scientific care to his hobby of collecting and classifying butterflies and moths as he did to all his research. He was particularly proud to have become a member of the British Entomological Society and had three papers published in the *Entomologist’s Record* (22, 25, 34). Although his earlier work was confined to British butterflies and moths, later he collected samples from many different countries. From the mid-1950s he ran a mercury-vapour moth trap, and in his 1971 report in *Entomologist’s Record* he described having trapped 350 different species between 1955 and 1971.

THE INFLUENCE OF THE DEPARTMENT OF HAEMATOLOGY AT THE HAMMERSMITH HOSPITAL ON THE DEVELOPMENT OF HAEMATOLOGICAL PRACTICE AND RESEARCH

When John was appointed as Senior Lecturer in Clinical Pathology at the British (later Royal) Postgraduate Medical School at Hammersmith Hospital in September 1946, the space and facilities at his disposal were meagre. There was one very small room, which served as his office and also offered enough bench space under a window for microscopy and simple laboratory tests, and two larger rooms in which all the routine haematology work for the hospital was done. Indeed, it was not until 1966, when the Commonwealth Building was constructed in the grounds of the hospital, that adequate space became available to house all the people that he had been able to attract to the Haematology Department.

Dacie was introduced to the problem of pernicious anaemia by Janet Vaughan. In 1947 David Mollin, who had come to the Hammersmith Hospital to work with John (later Sir John) McMichael (FRS 1957) transferred to his department. He encouraged Mollin to collaborate with G. I. Ross, a microbiologist who was studying the dependence of the growth of *Euglena gracilis* on vitamin B_{12}, to develop a biological assay for vitamin B_{12} for use in therapeutic trials of the recently crystallized form of the vitamin (Mollin & Ross 1952). Mollin began a research programme, funded by the MRC and the Wellcome Trust, into the megaloblastic anaemias; this rapidly expanded and became recognized internationally for the excellence of its work.

In John’s early days at the Hammersmith Hospital very little was work being performed on blood coagulation, although he had written knowledgeably on the diagnosis and management of haemophilia and was a co-author of the paper that first described the variant of this condition called Christmas disease (11). At about this time he appointed R. W. (Bob) Pitney as a
lecturer in coagulation; as another tribute to his sound judgement, coagulation research at Hammersmith began to flourish.

During the early 1950s, patients with leukaemia or lymphoma were usually admitted into the general medical and paediatric wards under the care of physicians or paediatricians, although treatment was often performed on the advice of haematologists. For example, John and his colleagues described the use of aminopterin for treating 13 patients with acute myeloid or lymphoblastic leukaemia (10); in a footnote to this paper he wrote that he was ‘grateful to the staff of the Departments of Medicine and Paediatrics for allowing us to treat patients under their care’. However, in the 1960s many new powerful drugs for the treatment of leukaemia were developed and their use required specialized management, often in isolation units. At about this time he frequently invited David Galton, then a clinical assistant to Professor Hadow at the Chester Beatty Research Institute, to review patients with leukaemia at the Hammersmith Hospital. In 1963 John became a member of an MRC working party on the treatment of leukaemia, and in 1966 the MRC and Department of Health invited him to establish an appropriate ward at the Hammersmith Hospital to evaluate new approaches to treatment. He appointed David Galton as the Director of this new MRC Leukaemia Unit. In 1969 John became the chairman of the MRC Leukaemia Working Party, with Galton as its secretary. From then onwards the close association between them, together with the appointment of some outstanding clinicians and research fellows, ensured that the Hammersmith Hospital became a national, and later international, reference centre for research in the diagnosis and management of leukaemia and lymphoma.

In 1959 John encouraged Mitchell Lewis, who had recently been appointed a member of his department, to establish a diagnostic radioisotope unit in the Haematology Department. This was achieved in collaboration with Leon Szur, a radiotherapist at Hammersmith, and Harold Glass, a member of the hospital’s Medical Physics Department. As well as standard red-cell survival studies they were able to develop a collimated scintillation counter for surface counting and a variety of other sophisticated approaches to analysing the sites and mechanisms of red-cell destruction.

During the rapid evolution of haematology in the postwar period it became clear to John that, although hitherto it had been largely a laboratory speciality in England, there was an increasing need for clinical expertise, particularly for the management of complex disorders such as leukaemia. He did not feel competent himself to take clinical charge of patients and, at least for a time, took the view that the Department of Haematology should have both laboratory and clinical haematologists. The first of the latter to be appointed at Hammersmith was Michael Brain, whose appointment was held jointly in the Departments of Medicine and Haematology. He was given a few beds and, later, when the MRC Leukaemia Unit was established, a new unit of eight beds in separate rooms, the ‘Anaemia Ward’. This was combined with earmarked outpatient facilities for patients with haematological disorders.

In 1966 the work of John’s team on haemolytic anaemia obtained further recognition by the establishment of the MRC Group for the Study of Haemolytic Anaemia.

Hence, during the first 20 years of John’s leadership, the Department of Haematology at the Hammersmith Hospital evolved into a major international centre for haematological research and practice. Its excellence attracted large numbers of postdoctoral fellows and other trainees, many of whom later went on to become leaders in haematology, both in the UK and overseas. In short, it became the major centre for haematological research in the UK and had an enormous influence on the development of the field internationally.
Fifty years ago, most hospital haematology departments in the UK functioned primarily to provide a laboratory service, and a few senior physician colleagues were dubbed ‘doctors with an interest in haematology’. In Scotland, however, haematology was more clinically based.

John realized that practising haematologists would have to be competent in both diagnostic laboratory haematology and the clinical management of patients with blood disease. However, he understood that they could not be expected to be equally skilful in both aspects of the discipline and proposed that, where there were sufficient staff, those with stronger interests in the laboratory could work in close cooperation with their more clinically inclined colleagues. To this end, when the Royal College of Pathologists was founded in 1962, although he believed that this was the natural home for most haematologists, he encouraged them to obtain Membership of both the Royal Colleges of Pathologists and Physicians.

He backed up these approaches to the training of haematologists by the development of some excellent programmes for teaching haematology to postgraduates at the Hammersmith Hospital. The annual courses on recent advances in haematology, for many years the only postgraduate course on haematology in the UK, became one of the major teaching events in the UK. It attracted many participants from Europe and further afield who, before the course started, were welcomed by John and Margaret at their home in Wimbledon. His appreciation of the importance of laboratory diagnosis led him, in 1950, to publish a short book entitled *Practical haematology*. Later, co-authored with Mitchell Lewis, this work expanded into *Dacie and Lewis: Practical haematology* (30), which has now been translated into several languages and has become the standard comprehensive text on the subject throughout the world; the 10th edition was published in March 2006.

In 1955 the *British Journal of Haematology* was launched by Blackwells, which, at the suggestion of Gwyn Macfarlane FRS, invited John to be its first editor. His dedication and insistence on an impeccable standard of both scientific content and literary style ensured that the journal quickly acquired an international reputation. His editorial insistence on good writing became legendary, guided as it was by Robert Grave’s *The reader over your shoulder* and his love of the novels of Anthony Trollope. In his later years he was often heard to despair at the quality of English usage and what he perceived as editorial carelessness in the journal. When he relinquished the editorship in 1962 he remained as Chairman of the Editorial Board, providing valuable advice to the six editors who successively took on the mantle. He had a particular affection for the journal and strongly opposed the suggestion from the Council of the International Society of Haematology that it might become their official journal with an appropriate name change. On the contrary, he was delighted at the close relationship between the journal and the British Society for Haematology.

He was one of the instigators of the British Society for Haematology, and became its President in 1964, as well as President of the Leukaemia Research Fund. He was President of the European/African Division of the International Society of Haematology for its Congress in London in 1975, and was a Foundation Fellow of the Royal College of Pathologists and its President from 1973 to 1975. In 1977 he was elected President of the Royal Society of Medicine. However, he was not an enthusiastic committee man and was increasingly concerned about what he perceived as the excessive commercial influences on the Society; he resigned after a few months.
The recognition of John’s enormous influence on haematology and medical practice were not confined to this country. He was the recipient of an Honorary Fellowship of the Institute of Biomedical Science and honorary Doctorates of Medicine from the Universities of Uppsala and Marseilles.

THE LATER YEARS: SOME MEMORIES OF J.V.D.

John retired and became Emeritus Professor in 1977, a year after he had received his knighthood. His long retirement was marred by illness but he continued writing, studying his moths, gardening and researching, as always in close partnership with Margaret (figure 1).

In 1986 he had a cardiac arrest, and in 1990 a triple by-pass operation. When asked by his daughter when she visited him after his arrest what he was looking forward to when he went home, he replied ‘Listening to music, beautiful music’. It is clear that music played a major role throughout John’s life and was a further strong bond between him and Margaret. He died on 12 February 2005.

John was extremely kind and gentle, slightly austere and rather formal, and shy but certainly not distant. Perhaps above all it was his extraordinary intelligence, total integrity and scholarly approach to everything he did that was the basis for his universal respect. Distinguished medical scientists such as Peter Issitt and George Garratty, who worked at the bench in his laboratory in the early days, recall that he was as much a perfectionist in his technical work as in his writing and that he was enormously respected by his technical staff ‘for his knowledge and ability to perform all the routine and specialized techniques employed in the department’. Lawrence Petz, who was later Professor of Pathology at University of California, Los Angeles, recalls how, in the early 1960s, John personally taught him how to perform all the laboratory investigations required for the diagnosis of PNH and CHAD. He was always happiest when sitting at the bench devising simple laboratory techniques that required drops of blood on a slide or in a tube with a reagent. He never felt entirely at ease after the advent of automatic analysers into which blood was inserted at one end and a result printed out at the other; he needed to know precisely what happened to the blood at each stage of the process!

John was also widely respected among his postdoctoral students and trainees for his total integrity regarding published work. Victor Hoffbrand, who worked in his department for many years before being appointed to the Chair of Haematology at the Royal Free Hospital, recalls that John’s name appeared on only one of the many papers he produced while working at Hammersmith. He allowed his staff complete freedom in choosing their research programmes, always giving them complete support and advice at every stage in their work.

In 1972, Michael Brain wrote an article on microangiopathic haemolytic anaemia in commemoration of John’s 60th birthday (Brain 1972). Pointing out that the study of this condition in John’s department in the decade 1959–69 represented an unusual achievement in that one group of workers put forward a hypothesis regarding a disease process and subsequently confirmed it both in experimental animals and in man, he went on to write:

although it is self-evident, it must be stated that the study of MHA would not have come about without Professor Dacie’s curiosity and interest in abnormal red cell morphology, and that his stimulus and interest, especially to myself (MCB) made the elucidation of MHA possible.
This tribute aptly summarizes the basis for John’s greatness; raising that simplest of haematological investigations, an examination of a stained blood film, to a genuine art form enabled him to lay the foundation for the discovery of many previously unrecognized haematological disorders and to encourage his students to pursue his findings to completion. Sadly, because most of his successors carry such heavy clinical loads that their time in the diagnostic laboratory has become very limited, we are very unlikely to see his like again.

In short, it is impossible to do full justice to John Dacie’s influence on the evolution of haematology over the second half of the twentieth century. He was, in every sense, a clinical scientist’s scientist.
ACKNOWLEDGEMENTS

We are extremely grateful to Margaret Dacie for helping us to put together an account of John’s family and early life, and to his previous students and colleagues who sent us their reminiscences of their time with John and who are quoted in this memoir.

The frontispiece photograph was taken by Godfrey Argent, and is reproduced with permission.

CAREER SUMMARY AND HONOURS

1935 MB, BS (Lond.)
1936 MRCP (Lond.)
1943–46 Major, then Lieutenant Colonel, Royal Army Medical Corps
1946–56 Senior Lecturer in Chemical Pathology and later Reader in Haematology, Royal Postgraduate Medical School
1952 MD (Lond.)
1956 FRCP (Lond.)
1957–77 Professor of Haematology, Royal Postgraduate Medical School
1961 Hon. MD, Uppsala
1962 FRCPath (President 1973–75)
1967 FRS
1976 Knighthood
1977 Hon. MD, Marseilles
1984 Hon. Fellow, Royal Society of Medicine (President, 1977)

REFERENCES TO OTHER AUTHORS

The following publications are those referred to directly in the text. A full bibliography is available as electronic supplementary material at http://dx.doi.org/10.1098/rsbm.2006.0006 or via http://www.journals.royalsoc.ac.uk.

4. 1944 (With A. Gilpin) Refractory anaemia (Fanconi type). Its incidence in three members of one family, with in one case a relationship to chronic haemolytic anaemia with nocturnal haemoglobinuria (Marchiafava–Micheli disease with ‘nocturnal haemoglobinuria’). *Arch. Dis. Childhood* 19, 155–162.


(29) 1967 The hereditary haemolytic anaemias. Royal College of Physicians of Edinburgh Publication no. 34.