

*Historical Note*

## From the Prague Spring to a Chair in Nephrology in Germany: Jan Brod (1912–1985)

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### Introduction

An eminent clinician, teacher and scientist, Jan Brod (1912–1985) was among the founders of academic nephrology in post-war Europe. In particular, he pioneered the pathophysiological approach to kidney disease and hypertension. Today, Brod is nearly unknown to the younger generation of nephrologists, not least because few publications have dealt with his remarkable life. His journey through nephrology provides an opportunity to encounter some of the ‘giants’ in 20th century medicine, while his personal odyssey is a lively reflection of European history.

‘This crazy guy thinks sodium dances a minuet in the renal medulla!’ [1]

The third person to actually use the test, Brod was greatly influenced by Popper [2]. In October 1938, however, Brod’s scientific career was brought to an abrupt end by the German invasion.

### France, Britain, North Africa, Sicily and Paul Wood

In 1938, Brod left Czechoslovakia for Kingston, Ontario. For that purpose, he first went to Paris in search of a visa. While waiting, he worked at the Hôpital de la Pitié with Professor Francis Rathery (1877–1941), an endocrinologist. After the German invasion in 1940, he volunteered for the free Czech army, a sequel to the French–Czechoslovak treaty of mutual assistance. In May 1940, Brod set up a first-aid post in Compiègne. Yet allied actions failed, and Brod embarked on a British cruiser to arrive in Liverpool on July 7. After training, he served in Leamington Spa, Warwickshire, where he cared for victims of the German air raid on Coventry in 1940. On March 13, 1943, Brod embarked on the SS ‘Windsor castle’ as lieutenant of the Medical Corps and sailed to the Mediterranean. On March 23, 1943, the ship was torpedoed and sunk. Brod was rescued to Algiers, started a march 400 km east to Chateaudun-de-Rhumel (today ‘Chelgoum El Aïd’) and set up a field hospital there. On May 12, 1943, German units in Africa surrendered and Allied forces scheduled the landing on the Italian mainland. Here, Brod met Paul Wood (1907–1962) [3], commander of the 103rd field hospital. By the time of their encounter, Wood had already gained a reputation as a consultant at Hammersmith Hospital. He was particularly interested in ‘soldier’s heart’ or ‘neurotic ill health’. His description of the disorder is ample proof of Wood’s acrid humour:

### Czechoslovakia and Vienna, 1912–1938

The son of a Jewish business manager, Jan Brod was born on May 19, 1912, in Novy Jicin in the north-east of Moravia, a former part of the Habsburg Empire. In 1918, Moravia was incorporated into Czechoslovakia. Brod studied medicine in Prague and graduated top of his class in 1937. He commenced his career as an unpaid house officer in the First Department of Medicine. Later that year, he spent 6 months in Vienna with Hans Eppinger (1879–1946). At the time, Prague-born Eppinger’s department in Vienna was a hotspot of internal medicine, not least due to Hans Popper (1903–1988), a founder of modern hepatology. Vienna-born Popper, who grew up in a Bohemian family, kept strong ties with Czechoslovakia throughout his life [1]. Yet in the 1930s, Popper was more interested in renal physiology. In particular, he introduced the measurement of creatinine clearance. Yet his ideas of renal electrolyte handling were not popular among nephrologists. Homer Smith said about Popper:

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‘[...] There was no essential difference in the effort syndrome in (in men) and cardiac neurosis in women—merely clothed differently; the former in battledress and the latter in nylon.’ [4]

Wood was a legendary clinician and a great part of Brod’s outstanding clinical skills derived from his exposure to Paul Wood. In December 1943, Wood and Brod landed at Naples to join the campaign in Sicily. Later, Lieutenant Brod worked in the dressing station during the battle of Monte Cassino. Brod was promoted captain and posted to Nocera Inferiore in southern Italy where he spent the rest of the war. At the time, he became interested in acute glomerulonephritis. Brod also met Max Rosenheim [5], another eminent physician. In October 1945, Brod was demobilized and went to Prague. Wood in turn returned to the Brompton Hospital in London and introduced cardiac catheterization there. In the following years, he trained a generation of British cardiologists and published landmark articles as well as a textbook, the first draft of which was lost during the war.

### Prague, 1945–1968

After his return to Prague, Brod resumed work at the First Department of Medicine at Charles University. After the communist coup d’etat, in spite of being regarded as politically unreliable, he could not be denied associate professorship [6]. He spent sabbaticals with Professor Pickering (1904–1980) in London and, more importantly, with Homer Smith at Rockefeller University in New York. At the time, Smith had already become the founder of renal physiology. His 1937 book was a landmark monograph in this field. In 1951, he published another textbook [7], which remained the definitive word on the subject for many years. In the same year, Brod chose to leave the university and become vice director of the Institute for Cardiovascular Research in Prague. These years saw him as an expert in the field of hypertension. He became secretary of the WHO symposium in 1960 and founding member of the International Society of Nephrology (ISN). He was also president of the 2nd Congress of the ISN, held in Prague in 1963. He became director of the Institute in 1961 and full professor in 1963. Despite his scientific success, he remained a dedicated clinician. His clinico-pathological conferences were felt to be on a par with the great medical establishments of Vienna, Berlin and London.

During the ‘Prague Spring’ of 1968, things turned different. In January, reformist Alexander Dubcek replaced Novotny as head of the secretariat of the Communist party. But clouds on the horizon were visible and neighbouring countries began to voice criticism at the conference of communist parties in Dresden. Manoeuvres of the Warsaw pact were announced. In June, Brod, Ludvik Vaculik and other intellectuals launched the ‘manifest of 2000 words’, an

act of frank criticism, which asked for an acceleration of the process of democratization:

‘This spring a great opportunity was given to us once again, as it was after the end of the war. Again we have the chance to take into our own hands our common cause, which for working purposes we call socialism, and give it a form more appropriate to our once-good reputation and to the fairly good opinion we used to have of ourselves. The spring is over and will never return. By winter we will know all.’ [8]

The document sparked fierce criticism by the Soviet Union. In June, the announced manoeuvres took place, but Russian troops partly remained in the country. On August 20, 1968, troops from the Soviet Union, Poland, Eastern Germany, Hungary and Bulgaria invaded Czechoslovakia. As a sequel to these events, Brod did not return from holidays in Yugoslavia but made his way to Austria and finally Germany. Vaculik, however, remained in Czechoslovakia and became one of the members of the Charta 77, a civil rights group.

### Mainz and Hannover, 1968–1985

In exile, Brod first turned to his good friend Peter Wolff who was chairman of the Department of Nephrology in Mainz [9]. Soon, Brod started as a visiting professor in Mainz. In 1969, the Medical School in Hannover, which had successfully adopted the Anglo-American departmental structure, appointed him chairman for the newly founded Department of Nephrology. One of the first of its kind in Germany, the department has ever since remained an important place for clinical nephrology, research and teaching. Brod not only formed the department but also left his mark on the young medical school. During his tenure, kidney transplantation proceeded in close cooperation with the surgical department and was much intensified in later years. He also worked for the benefit of dialysis patients, but being of an older generation of clinicians, he always regarded chronic dialysis itself as ‘meta-nephrology’. Students of those days vividly remember his bedside teaching and clinical acumen (Figure 1). Lectures on basic clinical procedures and those on water and electrolyte disorders were sometimes peppered with anecdotes of his experience in North Africa. Brod was also known to work long hours and expected similar dedication.

Brod always kept strong ties with Britain (Figure 2). He became Fellow of the Royal College of Physicians and advisor to the British Military Hospital in Hannover. He also held courses for the British Army Medical Staff and co-chaired FRCP examinations. In 1984, he was granted fellowship of the Green College in Oxford and delivered a lecture on medicine in Eastern Europe. Brod acquired many friends through the congresses he chaired. He organized eight symposia in Hannover, with the first one starting the series Contributions to Nephrology. The ninth meeting in 1981 was dedicated to his achievements in view of his



**Fig. 1.** Jan Brod in the 1980s.

forthcoming retirement. Brod also started a successful and still continuing students exchange programme between Hannover Medical School and several hospitals in the UK.

Jan Brod was fond of classical music and a visit to the opera was mandatory during the Symposia in Hannover [10]. More often than not it was Richard Strauss' *Salome*. Brod deliberately chose this rather short opera to allow for hours of discussions afterwards. Brod himself was a good pianist but he was famous for his interpretations of opera librettos. His love of classical music was evident during ward rounds when he used to hum opera melodies and invited his

students to guess the composer. He married, at the age of 48, a former medical student from Prague. They have a son, also called Jan, who studied medicine and became an urologist. In February 1985, Brod, aged 73, died in Celle near Hannover after an acute short illness. A memorial service with many of Brod's colleagues, pupils and friends was held and his ashes were brought to Leamington Spa where he had bought a house to spend his retirement. Sometime later the Jan Brod-Award for cardiovascular and renal research was initiated to commemorate his lifetime achievement.

### Scientific work

Brod published some 200 articles and two major textbooks, one of them in English, which was translated into many languages and appeared in three editions [11]. Jan Brod's work spans renal and cardiac physiology as well as the entire field of clinical nephrology. As described above, he was among the first to use the creatinine clearance [12]. The wartime encounter with acute glomerulonephritis sparked his interest in this disorder. His early work was also in the field of interstitial nephritis [13] and its different aetiologic factors, especially infection, reflux and analgesic abuse. He then progressed to the study of water and electrolytes in heart failure and the pathogenesis of oedema [14]. His data on the haemodynamic pattern in emotional stress have been cited ever since their first publication in the 1960s [15]. In particular, Brod demonstrated that the haemodynamic response to stress in normotensive subjects, with renal and



**Fig. 2.** Photo taken on the occasion of a visit to London in 1971; Jan Brod and his wife are third and fourth from the left, respectively. Fifth from the right is Lord Rosenheim, President, Royal College of Physicians, whom Brod had first met in Sicily. The others are staff of Lilly Pharmaceuticals Ltd or members of the Royal College of Physicians.

cutaneous vasoconstriction, is similar to the situation in unstimulated hypertensive patients. These findings prompted further research into the genetic–environmental interaction in hypertension. Throughout his life, essential [16] and renal [17] hypertension remained his main fields of interest.

## Conclusion

Jan Brod was among the founders of renal medicine in Europe. He grew up in the scientific tradition of Prague and Vienna and trained with some remarkable scientists. Through his wartime experience, particularly his acquaintance with Paul Wood, Brod became an astute clinician in the British tradition. His emotions towards Germany were mixed: A dedicated lover of German composers, Brod had to fight Germany in World War II and lost relatives during that time. Later, he took refuge in Germany in 1968 and likened himself to Bohemian physiologist and anatomist Jan Evangelista Purkinje who had worked in Breslau upon the invitation of the Prussian king. Throughout his life, Brod remained a political man and voiced his opinions. A Czech patriot, he always took an interest in Czechoslovak history and commented on this subject:

‘What the future will add to this confused tale cannot be foreseen.’ [18]

Brod did not live to see the ‘velvet’ revolution in 1989 and the rehabilitation of friends like Ludvik Vaculik. His unattained 90th birthday in 2002 should not have passed without reference to this remarkable man.

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