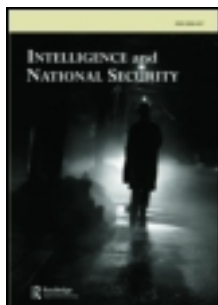


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ARTICLES

The Viennese Connection: Engelbert Broda, Alan Nunn May and Atomic Espionage

ANDREW BROWN

ABSTRACT Recently declassified materials have revealed the existence of a previously unknown network of Austrian communists in pre-war England. The group of young well-educated Viennese used unsuspecting social contacts and marriages of convenience to establish itself. Analysis of this network reveals some previously overlooked similarities between the ‘Cambridge’ spies Kim Philby and Alan Nunn May, as well as the emergence of a new nuclear spy, Engelbert Broda. Their wartime espionage as individuals took place at a time when non-communist British scientists were promoting the international sharing of atomic knowledge through unofficial channels. The newly released files reflect a characteristic preference of the British secret services for intelligence gathering rather than intervention and illustrate how vital leads follow from apparently trivial observations.

Bourgeois Vienna was shocked at the murder of Semmelmann, a German secret agent for the Soviet Cheka, in the summer of 1931.¹ His assailant was another *chekist*, Piklovich, a Yugoslav who carried two guns and a photograph of his victim. The hit was undertaken to silence the 32-year-old Semmelmann, who had been dismissed by the Cheka on suspicion of rightist affiliations in Germany. His fatal disloyalties included trying to sell the story of his life as an illegal agent to various newspapers and the potential betrayal of underground communists in Romania and Yugoslavia.² Investigations by the police led them to the *Prince Eugenstrasse* residence of

¹*Daily Telegraph*, 15 August 1931.

²The affair was also mentioned in the rather bizarre context of the 1974 Brill Lecture of the New York Psychoanalytical Society. See K.R. Eissler, ‘The Fall of Man’, *The Psychoanalytical Study of the Child* 30 (1975) pp.619–20. Piklovich was acquitted by a hung jury that deliberated for half an hour.

Dr Ernst Broda, a wealthy former official in the Finance Ministry.³ The police kept watch on the apartment for several weeks, deciding it was a relay station for communist instructions. After raiding it, they identified Broda's 14-year-old son, Christian, as the handler of this stream of subversive information. Christian told them he was acting under the guidance of his older brother, Engelbert, a chemistry student in Berlin.⁴ Ernst Broda denied all knowledge of his sons' 'collusion' with the communist party and was taken at his word. Indeed, apart from passing on information to other security services including the British, the Austrian police seem to have taken no action against the Brodas.

Communism in 1930s Vienna

Over the next few years, Vienna became a much more hostile and dangerous place for communists. Chancellor Dollfuss, an authoritarian Catholic with fascist leanings, ruled by decree from 1932 and the following year banned the *Kommunistische Partei Österreichs* as well as some mainstream socialist parties. In February 1934, there was a short but bloody workers' uprising against Dollfuss. The communists naturally supported the workers' revolt and in its aftermath were actively hunted by the police. A visiting British communist drawn into the affair was Kim Philby, who decided to marry his Viennese girlfriend Litzi Friedmann and bring her to London to escape reprisals from the Dollfuss regime.⁵

In London they met Litzi's friend from Vienna, Edith Tudor Hart (née Suschitzky), who was instrumental in quickly recruiting both of them as Soviet agents. She introduced Kim to 'Otto' who subsequently recruited and controlled the ring of five Cambridge spies through the London *rezidentura*. Edith had known 'Otto' (Arnold Deutsch) since 1926 when they were fellow members of the Comintern in Vienna.⁶ Edith Suschitzky had first come to the attention of MI5 in 1930, when she was working as a photographer in London. She took part in a Workers' Charter demonstration in Trafalgar Square where she was noticed 'to be in conversation with a number of prominent communists'.⁷ At the time she was living with Alex Tudor Hart,

³Ernst Broda was an attorney in Vienna. He also owned the 'Five Tower Castle' in the province of Styria where police found 'masses of communist material' according to the *Daily Telegraph* report.

⁴MI5 files on Engelbert Broda, KV/2/2349–50. National Archives, Kew (hereafter NA, Kew). Christian Broda (1916–87) became a significant political figure in Austria after the war and served for many years as the Minister for Justice.

⁵G. Borovik and P. Knightley, *The Philby Files* (NY: Little Brown & Co. 1994) p.22.

⁶Deutsch was raised in Vienna and studied science and philosophy at Vienna University, gaining a PhD in 1928. He became a disciple of Wilhelm Reich who attempted to synthesize the theories of Freud and Marx. Deutsch went to Moscow in 1931 where he trained for a career as an 'illegal' (non-Soviet operative). See W.E. Duff, *A Time for Spies: Theodore Stephanovich Mally and the Era of the Great Illegals* (Nashville: Vanderbilt University Press, 1999) pp.82–7.

⁷Secret service minute (31/10/30), KV/2/1012, NA, Kew.

an open communist from his Cambridge days, who was then a medical student at St Thomas' Hospital. She was told to leave the country and returned to Vienna, where she worked for the TASS news agency.⁸ In 1933 she married Dr Tudor Hart in Vienna – again a politically inspired marriage of convenience – he brought her back to London but they did not live together regularly.⁹

However repressive life was in Vienna, it paled by comparison with Hitler's Germany. Hitler cynically labeled the Reichstag fire in 1933 as the start of a communist revolution; the following day his storm troopers rounded up 1,500 communists in Berlin, 10,000 in Germany as a whole.¹⁰ Engelbert Broda, the *Reichsleiter* or communist student leader in Berlin, was imprisoned for ten days in the summer of 1934 during a purge of the university;¹¹ on his release, Broda returned to the relative tranquility of Vienna where he became a research student at the university under Professor Herman Mark, a pioneer in polymer chemistry.¹²

From 1919, when the Republic of Austria was constituted as the German-speaking remnant of the broken Austro-Hungarian Empire, the specter of its union (*Anschluss*) with Germany was always in the background. Austrian Nazis assassinated Dollfuss (who opposed *Anschluss*) in July 1934; two years later, Hitler, after disavowing any intention 'to interfere in the internal affairs of Austria, to annex Austria, or to conclude an *Anschluss*', signed a non-interference pact with the Austrian government.¹³ Up to this point, the USSR had been agnostic on the *Anschluss* question but it now sensed an increasing threat arising in central Europe. The Soviets saw the German

⁸Vienna police memo to Scotland Yard Special Branch (9/7/31), KV/2/1012, NA, Kew.

⁹Edith Suschitsky was born in Vienna in 1908, the daughter of a successful Jewish publisher. A 1935 Home Office memo characterized her as a 'known extremist and associate of leading CPGB members since 1930', but regarded her as 'of timid type and unlikely to openly identify herself with extremist activities here'. The secret service took an even dimmer view of Alex Tudor Hart, 'a crank [who] has neither the character nor ability to become really important in the revolutionary movement'. From 1936 to 1938 he headed a British Medical Unit treating republican casualties in the Spanish Civil War. The Tudor Harts divorced at the beginning of World War II (after she had successfully brought her mother and other relatives to England) and he married Constance Swan, an artist's model and second-generation CPGB member. See MI5 files on Edith Tudor Hart (KV 2/1012–13) and Alex Tudor Hart (KV/2/1603–4), NA, Kew.

¹⁰R. Overy, *The Dictators* (NY: W.W. Norton 2004) p.204.

¹¹Secret service memo (20/3/46), KV/2/2353, NA, Kew; and see P. Markl, 'Politically engaged scientist', *Wiener Zeitung*, 24 October 2003.

¹²Herman Mark (1895–1992) was an internationally respected chemist who fought in the Austro-Hungarian army 1914–18. He carried out important research in the 1920s both at the Kaiser Wilhelm Chemistry Institute, Berlin-Dahlem and then at IG Farben. See H. Mark, *From Small Organic Molecules to Large* (Washington, DC: American Chemical Society 1993).

¹³W.S. Churchill, *The Second World War, Vol. I: The Gathering Storm* (London: Cassell 1948) p.161.

envelopment of Austria as a prelude to their further expansion into the Balkans and along the Danube. *Pravda* in a perceptive article entitled 'The Iron Fist in the Diplomatic Glove' suggested that 'with a peaceful phrase on her lip' Germany would now be in a position 'to undermine Austria more systematically'.¹⁴ Guided by Moscow and the Comintern, Austrian communists appealed to a feeling of Austrian nationalism and led popular resistance to the ideology of 'ein Volk, ein Reich' that would end in Austria's subjugation by Nazi Germany.

While many leading Austrian communists sought uncertain refuge in the USSR, a deliberate decision was taken in 1936 to prepare a sanctuary in England. A young physician, Dr Eva Kolmer, the daughter of a professor at the University of Vienna, was given charge of the task.¹⁵ She came to England to work in 1936 and took the opportunity to establish contacts with prominent Austrians already living there, who were naturally inclined to help her and suspected no ulterior motives given her personal background.¹⁶ Her train journeys took her through Paris, where she received instructions from the Comintern (probably via Litzi Philby now living there). In January 1938 she began assisting the passage of as many Austrian and Czech communists to England as she could, supporting them and other refugees through the Austrian Centre that she had helped to create in London. The central committee of the Communist Party of Great Britain (CPGB) delegated Edith Tudor Hart to liaise with the Austrian cell and to steer its activities.¹⁷ MI5's interest in her was rekindled early in the 1938 with the exposure and arrest of the Woolwich Arsenal spy ring. Percy Glading, the ringleader who was married to an Austrian woman, was arrested after photographing classified military documents from Woolwich, using a Leica camera that was traced to Tudor Hart.¹⁸

Engelbert Broda – A Communist with Connections

In April 1938 Engelbert Broda arrived in London with his wife, Hildegarde, a German doctor he married in Vienna. He came under the auspices of the Society for the Protection of Science and Learning (SPSL), a remarkable charity founded by British academics to assist scholars who were victims of

¹⁴A.D. Low, 'The Soviet Union, the Austrian Communist Party and the *Anschluss* Question, 1918–1938', *Slavic Review* 39/1 (1980) pp.1–26.

¹⁵MI5 report on the Austrian CP in the Great Britain (14/3/41), KV/2/1013, NA, Kew.

¹⁶In the 1941 report on the Austrian CP in Great Britain, the secret service still regarded Dr Kolmer's open communism as a 'whim'. She married Jakob Wolloch, a Romanian scientist, who was also employed by DSIR in the wartime Cavendish Laboratory (apparently not on secret work). KV/2/2352, NA, Kew.

¹⁷Secret service report (10/04/38), KV/2/1012, NA, Kew.

¹⁸See KV 2/1604 for a 1951 B6 MI5 report on Edith Tudor Hart and also R.C. Thurlow 'Soviet Spies and British Counter-Intelligence in the 1930s: Espionage in the Woolwich Arsenal and Foreign Office Communications Department', *Intelligence and National Security* 19/4 (2004) pp.610–31.

political or religious persecution.¹⁹ Herman Mark vouchsafed his scientific credentials and Sir William Bragg, the Nobel laureate and President of the Royal Institution, lent his personal support to Broda's case.²⁰ At the end of July a Special Branch report to MI5 stated that a group of Austrian communists had been functioning in London for several months, meeting at regular intervals. The leader of the group was said to be Engelbert Broda, whose address was kept secret from all, 'even Mrs Tudor Hart who only knows his telephone number and communicates with him by that medium'.²¹ Broda's mail was intercepted for about one month, but by October Special Branch reported that they had made little progress and had been 'unable to trace any activities on his part, beyond assistance to Austrian refugees'.²² He was active at Eva Kolmer's Austrian Centre, where he edited *Austrian News*.

Broda was appointed as a research fellow at University College London (UCL) in February 1939, working on the photochemical processes that mediate color vision. That month Special Branch noted that the group of Austrian communists met at Broda's residence. He was again kept under observation with no sign that he was involved in subversive (as opposed to anti-Nazi) activities, but on 6 October he was interned. His interrogation by Special Branch revealed nothing and there was a concerted effort by his friends and colleagues to secure his freedom. Bragg wrote two letters and these undoubtedly carried weight with the authorities, who released him 'without restriction' on 18 December, despite their suspicions that he was 'a dangerous communist'.²³ The Brodas with their nine-month-old son, Paul, spent Christmas at Bragg's home in Surrey. In January they returned to London and Broda continued work at UCL. He was interned again in May 1940²⁴ (when Churchill, fearing an imminent invasion, issued the order to 'collar the lot') and released in September. He was kept under occasional surveillance, and prior to the spectacular revocation of the Hitler-Stalin pact in June 1941 was noted to be ambivalent about the British war effort. In May 1941, for example, he gave a talk on 'Raw Material and War Strength' at the Austrian Centre that an MI5 observer described as 'faked and defeatist'.²⁵

¹⁹See J. Medawar and D. Pyke, *Hitler's Gift: The True Story of the Scientists Expelled by the Nazi Regime* (NY: Arcade 2001). By the end of the war SPSL was responsible for bringing over 2,500 refugee scholars to the UK, mostly from Germany and Austria, many of whom made invaluable contributions to the war effort and went on to distinguished academic careers.

²⁰KV/2/2349, NA, Kew.

²¹Special Branch report (23/7/38), KV/2/1012, NA, Kew.

²²Special Branch report (31/10/38), KV/2/1012, NA, Kew.

²³Special Branch report (3/2/40), KV/2/2349, NA, Kew.

²⁴Another protégé of Herman Mark, the future Nobel laureate Max Perutz described his own experiences in the major internment program of May 1940 in an essay 'Enemy Alien' reproduced in M.F. Perutz, *I Wish I'd Made You Angry Earlier* (Oxford: OUP 1998).

²⁵MI5 report (7/5/41), KV/2/2350, NA, Kew.

because Broda completely discounted the resources of the British Empire. Once the Soviets took up the fight, Broda supported the Allies.

British Wartime Atomic Research

In August 1941 one of the most significant and secret wartime documents, the Maud Report,²⁶ was delivered to the government. The report, summarizing over a year of intensive nuclear research in a number of British universities, was divided into two broad parts – ‘the bomb’ and ‘the boiler’. The bomb was an atomic weapon based on the rare and difficult-to-separate isotope of uranium, U-235, while the boiler was the name given to a nuclear reactor that could be used to generate electric power. The report concluded that an unprecedented effort on an industrial scale might allow the construction of a uranium bomb within the likely timescale of the war. While it concentrated almost entirely on separating U-235 from natural uranium, the report mentioned that a new element of atomic mass 239 would be produced in a nuclear reactor and might yet prove suitable as material for an atom bomb. The new element, now known as plutonium but then referred to as ‘94’, had not yet been chemically isolated in England but there had been considerable theoretical research into its likely properties at the Cavendish Laboratory in Cambridge. Three refugee scientists from France, Hans Halban, Lew Kowarski and Jules Guéron together with a Swiss, Egon Bretscher, were carrying much of the work on ‘94’ at the Cavendish. Halban and Kowarski were both Jewish and naturalized Frenchmen, and they enjoyed an antagonistic relationship. [Von] Halban was an assertive man who liked to give the impression that he was the senior French scientist outside Paris.²⁷ It was Halban who approached Broda to join the quarrelsome, cosmopolitan group at the Cavendish, perhaps having met him through the Austrian Centre.

Nearly all the scientists in the Maud program (also known as ‘Tube Alloys’) were employed by the Department of Science and Industrial Research (DSIR). Halban wrote to Broda in November asking him to complete the DSIR employment form: he would have also been required to sign the Official Secrets Act, promising not to disclose any information to unauthorized third parties, before starting work at the Cavendish.²⁸ A question was obviously raised by the security services when Broda’s new employment came to their attention, but they were reassured by DSIR that he ‘will be employed on Government Research work which is divided into

²⁶See M. Gowing, *Britain and Atomic Energy, 1939–45* (London: Macmillan 1964) and A.P. Brown, *The Neutron and the Bomb: A Biography of Sir James Chadwick* (Oxford: OUP 1997). The Maud Committee of scientists was constituted in 1940 after two enemy aliens working at Birmingham University (an Austrian, Otto Frisch, and a German, Rudolf Peierls) realized that an atom bomb might be constructed from a few kilograms of the isotope uranium, U-235.

²⁷B. Goldschmidt, *Atomic Rivals* (New Brunswick, NJ: Rutgers University Press 1990).

²⁸H. Halban to E. Broda (27/11/41), KV/2/2350, NA, Kew.

two parts, the more secret of which he would not be employed on'.²⁹ This seems to be a reference to the Maud Report's distinction between the bomb and the boiler, but Broda's background suited him for work on uranium and plutonium chemistry – of relevance to both military and civil applications of atomic energy. Within the Cavendish Laboratory there was no hint of the compartmentalization that General Groves insisted on for the Manhattan Project, and there was free discussion amongst the DSIR scientists on all aspects of their work. MI5 was alerted that Broda had moved and was asked to watch discreetly for communist activities in Cambridge.

Dr May, the Scientist

Alan Nunn May, a nuclear physicist already familiar with the Cavendish, joined the DSIR group there in April 1942. He had come up to Trinity Hall College on a scholarship to read natural sciences in 1930. Although well equipped for Cambridge academically, May was from a modest background, unlike the majority of undergraduates who came from the fee-paying 'public' schools.³⁰ Their frivolous ways contrasted starkly with the hardships in the country, where unemployment grew dramatically during May's first year, and even the government doubted the future of capitalism. To young impressionable minds, the propaganda of the Soviet five-year plan and the egalitarian appeal of communism were most attractive, and vociferous support for everything Soviet from leading young science dons like Desmond Bernal ('Sage') and Patrick Blackett could only enhance the cause. The undergraduate May left no trace in student politics and graduated with first-class honors in 1933. He was accepted as PhD candidate at the Cavendish Laboratory to be supervised by James Chadwick, who had discovered the neutron the year before. May was one of a small group of research students who toiled in Rutherford's broad shadow on the alpha-ray-induced disintegration of nuclei. A fellow researcher remembered him as 'a retiring dreamy-looking character ... who managed to convey the distant impression of always being spiritually in his laboratory'.³¹

As a research student at the Cavendish, May got to know his first Russians. The most famous was Peter Kapitza, whose detention in the USSR in the summer of 1934 became a *cause célèbre* in Cambridge without

²⁹Memo on E. Broda (26/12/41), KV/2/2350, NA, Kew.

³⁰Although he was usually referred to in the press as Nunn May, he signed his name A.N. May. May had been a scholarship boy at the renowned King Edward's School, Birmingham. A few years later, Maurice Wilkins followed May from the same school to Cambridge and also joined the CPGB. By chance, Wilkins lodged with the May family while carrying out research at Birmingham University in the war and found them to be 'high-minded and intelligent people' but not much fun. In 1944 Wilkins transferred to Berkeley to work on the Manhattan Project. After the war, Wilkins made X-ray diffraction studies of DNA for which he shared a Nobel prize with Watson and Crick in 1962. See Maurice Wilkins, *The Third Man of the Double Helix* (Oxford: OUP 2003).

³¹Brown, *The Neutron and the Bomb*, p.121.

apparently changing anyone's mind about the nature of Stalin's regime. May had more day-to-day contact with Aleksandr Leipunskii from the Ukrainian Physicotechnical Institute, who spent the year hunting for neutrinos.³² Scientific exchange with the USSR was commonplace, with John Cockcroft and especially Paul Dirac making frequent visits to give lectures. May paid one short visit to Leningrad after finishing his PhD in 1936.³³ On his return, he began his academic career at King's College London and, like most progressive scientists, joined the Association of Scientific Workers (AScW).³⁴ At the outbreak of war the King's department was evacuated to the University of Bristol, where he worked with Cecil Powell. Chadwick drew Powell into research for the Maud Committee, and May worked on a project that utilized Powell's photo-emulsion technique for measuring neutron energies and the cyclotron in Chadwick's Liverpool department.³⁵

Leaks from Canada

May left the Cavendish at the end of 1943 to join the new laboratory in Montreal that had been set up as an Anglo-Canadian atomic energy project with the begrudging consent of the Americans. Members of the Cavendish group formed the nucleus of a larger project there to work on a heavy water reactor and plutonium research. Halban initially headed the Montreal lab until John Cockcroft arrived; May was a senior member of the nuclear physics division from 1943 to 1945. There seemed to be some consideration of sending Broda to Montreal with the rest of the Cavendish group, but MI5 had reviewed his status again in May 1943 and concluded 'Broda has followed the regular Party line both before and since the entry of Russia into the war. There is, therefore, a definite risk that any information that Broda may get, will be passed on to the Communists.'³⁶ At a subsequent meeting of the DSIR directorate, Michael Perrin reported on the concerns regarding Broda at the Cavendish.³⁷ Noting that Broda was working under Kowarski,

³²Leipunskii was a Party member (unusual for a scientist in 1934) who narrowly escaped being shot in Stalin's great purges. At the beginning of the war, he and Vitalii Khlopin drew up a research plan for the Soviet Uranium Commission. Leipunskii was later in charge of the fast breeder program in the USSR. See David Holloway, *Stalin and the Bomb* (New Haven, CT: Yale 1994).

³³MI5 files on A.N. May, KV/2/2209, NA, Kew.

³⁴May first came to the Security Service's attention in February 1938 when as AScW delegate to the World Boycott Conference he was spotted attending a 'Communist Party faction meeting' in a nearby pub. KV/2/2209, NA, Kew.

³⁵Brown, *The Neutron and the Bomb*, pp.195–6. Powell (1903–71) won the 1950 Nobel prize for physics after his photographic technique was applied to cosmic rays. He was another Rutherford scientific protégé and a man of the political left. He succeeded Joliot-Curie as president of the communist-front World Federation of Scientific Workers and was one of the 11 signatories of the Einstein–Russell manifesto.

³⁶N.J.E. Bagot Memo on E. Broda (24/5/43), KV/2/2350, NA, Kew.

³⁷Perrin was a chemist working for ICI in 1940. His boss Wallace Akers became the Director of Tube Alloys and appointed Perrin as his deputy. Perrin was involved in every

Perrin had not ‘the slightest doubt that if anything were said to Kowarski against Broda, Kowarski would tell Broda within the hour’. Furthermore, Perrin continued, ‘the bomb and boiler are now so closely associated and the majority of the staff who worked on the less secret problems have gone to Canada, with the result that Broda is much more in touch with the more secret side’.³⁸ By June 1944, DSIR had resolved ‘that at all costs they will not send Broda overseas’.³⁹

In autumn 1944, there was much anxiety about the reliability of foreign scientists working on the Manhattan Project. Churchill was especially concerned about Niels Bohr, who had attempted to persuade him to the idea of an open nuclear world governed by an international authority after the war. He suspected Bohr of providing information to the Russians and suggested that he ‘be confined or at any rate made to see that he is very near the edge of mortal crimes’.⁴⁰ In the case of the Montreal lab, there was the immediate problem of French scientists visiting newly liberated Paris and giving information to their former and future boss, the communist Frédéric Joliot-Curie, or to the provisional government. General Groves, who was exercised by this potential international leak of nuclear secrets and the dissolution of his cherished policy of compartmentalization, wrote to Chadwick on 16 December suggesting that ‘the arrangements by which Dr May works at Argonne [Nuclear Lab near Chicago] on problems of interest to the Montreal Group’ should be reexamined.⁴¹ It did not escape Groves’ hawkish eye that May made no fewer than four visits to Chicago in 1944, staying for up to one month at a time.⁴² At a meeting with Groves on 20 January 1945, Chadwick reported that he had interviewed May who told him that ‘he had not picked up any H[anford] E[ngineering] W[orks] information [on plutonium production] while at the Argonne lab; also that he was exceptionally reliable and close-mouthed’.⁴³ So it was a stunning blow to Chadwick and the British leadership in September, when a young clerk from the Soviet Military Attaché’s office in Ottawa, Igor Gouzenko, defected with 100 secret documents stuffed inside his shirt. These revealed an extensive network of Canadian spies and in particular an atomic scientist, code-name Alec, who was soon identified as May. Chadwick and the British Ambassador thought he should be detained in Canada, but the security services argued

administrative and political aspect of the British wartime atomic project, including the negotiations to set up the Montreal Lab and, later, nuclear security and intelligence. See Gowing, *Britain and Atomic Energy*.

³⁸Minutes (extracts) of DSIR meeting (25/6/43), KV/2/2350, NA, Kew.

³⁹DSIR note (1/6/44), KV/2/2350, NA, Kew.

⁴⁰Churchill cable to Lord Cherwell (20/9/44); see Brown, *The Neutron and the Bomb*, pp.269–70.

⁴¹L. Groves to J. Chadwick (18/12/44) RG77, Box 85, file 201, National Archives 2, College Park, Maryland.

⁴²Movements of Alan Nunn May, February 1943–September 1945, KV/2/2215, NA, Kew.

⁴³L. Groves notes on meeting with Dr J. Chadwick (20/1/45) RG77, Box 85, file 201, NA2, College Park, Maryland.

that he should be allowed to return to England as planned 'to take the chance offered of uncovering a parallel organization in this country'.⁴⁴

The head of the Montreal Lab, John Cockcroft, immediately supplied an estimate of the extent of May's knowledge, under two headings:⁴⁵

Access to information

1. Complete knowledge design of Canadian Heavy Water pile. I do not consider this to be of major importance.
2. Knowledge construction of U.S. Graphite pile at X [Oak Ridge pile X-10].
3. Working experience with Chicago Graphite and Heavy Water pile.
4. No official knowledge of workings at Hanford piles, but likely to have a pretty fair idea of working power, dimensions, major difficulties experienced etc. Much of this can be obtained by any intelligent physicist from Smythe Report [Smyth Report (1945) – the officially sanctioned account of the Manhattan Project].
5. Knowledge of methods of separating Plutonium and U-235 now favoured by the Montreal chemists.
6. Working knowledge of properties of Uranium 233⁴⁶ – obtained by experiments in Chicago. Appreciation of its probable importance in future in relation to the use of Thorium.
7. Would probably guess the relative role of 235 and 239 in U.S. bombs.

Access to materials

1. Has had access to small samples of U-235 – about 1 milligram – and 1 micro-milligram might have been removed without notice.
2. May have obtained access unofficially to Uranium metal irradiated in the X pile and containing Plutonium in quantities of a Milligram. Such samples would be of great value in starting up chemical separation work.

Meanwhile MI5 was assessing how May came to be involved in espionage and the extent of his activities. Details given by Gouzenko in his interviews with the Canadian Mounties were generally corroborated by the documents he smuggled out from the Soviet Embassy in Ottawa. According to Gouzenko, May had been in the Soviet intelligence service for many years and although some of his colleagues knew he was a CPGB member, they did not believe this affected his work.⁴⁷ Colonel Zabotin (cover name 'Grant'), the GRU (Soviet military intelligence) *rezident* in Canada, received instructions from Moscow to activate May around the end of 1944. The Canadian investigators inferred that May 'had been briefed before leaving

⁴⁴Secret service cable (14/9/45), KV/2/2209, NA, Kew.

⁴⁵Memo from M. Macdonald to Sir Alexander Cadogan (10/9/45), KV/2/2209, NA, Kew.

⁴⁶Uranium 233 is an artificial isotope of uranium that is produced by neutron irradiation of the element thorium. U-233 is *fissile* – it can support a chain reaction.

⁴⁷Extract from RCMP report on the CORBY [Gouzenko] case (15/9/45), KV/2/2209, NA, Kew.

England and told to wait until contact was made with him'.⁴⁸ At successive meetings, May provided 'a survey of the whole setup regarding atomic research in the USA and in Canada ... more closely concerned with uranium and atomic energy than with the bomb itself' and provided tiny samples of what was believed to be enriched uranium. He also 'provided information on an electronic device used by the US Navy against Japanese suicide planes' which raised the question of possible sub-agents since he did not work in this field and the Americans had not shared this technology with the British. Finally the Soviets were aware that May was due to return to London to take up a position at King's College and arranged that he should meet an agent in front of the British Museum at 11 pm on 7 October. Unfortunately, all the documents relating to Gouzenko were immediately forwarded to Kim Philby, head of counter-espionage section against the USSR at the Secret Intelligence Service in London; he immediately relayed their contents to Moscow.⁴⁹ Philby was aware that the only evidence against May was from Gouzenko and was not regarded as sufficient to charge him.

The Reaction in Britain

After May's return to London, his movements and communications were closely monitored. As one would expect, May contacted various scientific friends, including Broda in Cambridge. By then, Broda was having an affair with Edith Tudor Hart – he and Hilde had separated in the spring of 1944 but still saw each other occasionally.⁵⁰ The MI5 officer who was monitoring Edith volunteered the following opinion in November 1945:

Although I have no definite proof, I have always suspected Broda of being engaged in scientific espionage and according to Edith Tudor Hart he has for some time occupied himself with secret scientific research at Cambridge connected with atomic energy. She stressed Broda's importance to the Party in view of his qualifications and connections. In view of the intimate relations existing between Edith Tudor Hart and Broda it must be presumed that she is well informed of her lover's activities.⁵¹

MI5 questioned May for the first time on 15 February 1946 and met with a blanket denial. May 'broke' during a second interview five days later, when information about the scheduled meeting outside the British Museum with a

⁴⁸Ibid.

⁴⁹J.H. Marriott to H.A.R. Philby (18/9/45), KV/2/2209, NA, Kew; Borovik and Knightly, *The Philby Files*, p.239. Donald Maclean, another Trinity Hall communist and Soviet spy, also saw the May dossier in his position as First Secretary at the British Embassy in Washington, see Brown, *The Neutron and the Bomb*, pp.308–9.

⁵⁰H. Broda to E. Broda (22/3/45), KV/2/2351, NA, Kew. An affectionate letter on her part hoping that they would stay together and not divorce.

⁵¹MI5 minute (10/11/45), KV/2/1013, NA, Kew.

Soviet minder that he had failed to keep in October was put to him. He admitted passing general information on atomic energy to an unidentified contact in Canada and also to giving him two microscopic specimens of uranium (one U-233 and one slightly enriched U-235). His signed confession was the only admissible evidence against him and in the view of the Attorney General constituted a breach of the Official Secrets Act.⁵²

News of May's arrest outraged the scientific community in Britain and many sprang to his defense. The scientist with the greatest knowledge of and who felt the greatest responsibility for the case, Sir James Chadwick, wrote to the chairman of the recently formed Association of Atomic Scientists urging caution. While Chadwick believed May was entitled to the best defense (which might include expert testimony from scientific colleagues), he was worried that 'some of his friends and colleagues may take up May's cause without reflection and from political prejudice'.⁵³ The impact on Edith Tudor Hart and her circle was devastating. MI5 (informed on a regular basis by an unidentified source named 'Kaspar') learned that Broda might soon be returning to Austria: 'Edith Tudor Hart and her friends, since the Canadian affair, are being very reticent about Broda. Edith, however, let out that Broda has a great knowledge of various things, and this fact necessitates his departure from the UK.'⁵⁴

Soon Tudor Hart was blaming Broda for being reckless, saying: 'When a man is involved in such a business as he is, he ought to be careful and not endanger his friends by writing or visiting them.'⁵⁵ The British authorities were not as impressed about his espionage as she was, even to the point of not being 'seriously concerned if Broda found himself, willingly or unwillingly in Russia' except that it might damage relations with the Americans because 'General Groves would be alarmed in the extreme'.⁵⁶

At his Old Bailey trial on May Day, Alan Nunn May pleaded guilty to a breach of the Official Secrets Act. The Attorney General in his submission to the judge alluded to the universal hope that the new UN organization 'will be able to establish conditions of sufficient confidence and stability' to make international cooperation on atomic energy possible, but that for May to claim that right was to set himself above the law.⁵⁷ Despite his defense counsel's attempt to portray May as a man of 'high principle' and 'good character' who was acting in what he believed to be the greater good, the judge sentenced him to 10 years' penal servitude. The AScW immediately issued a press statement condemning the harsh sentence and asserting that 'his action was determined only by the principle that fundamental scientific data should have been shared with a country that was not only friendly but a fighting ally'.⁵⁸ MI5 insiders considered May 'to be not the disinterested

⁵²R. Hollis telegram to Royal Canadian Mounted Police (26/246), KV/2/2212, NA, Kew.

⁵³J. Chadwick to H. Massey (2/4/46); see Brown, *The Neutron and the Bomb*, p.314.

⁵⁴MI5 minute on E. Tudor Hart (9/3/46), KV/2/1013, NA, Kew.

⁵⁵MI5 minute on E. Tudor Hart (18/3/46), KV/2/1013, NA, Kew.

⁵⁶MI5 memo on E. Broda (20/3/46), KV/2/2353, NA, Kew.

⁵⁷Transcript of *R. v Alan Nunn May* (1/5/46), KV/2/2214, NA, Kew.

internationally minded scientist which his colleagues represent him to be, but a rather fundamentally wicked, not to say criminal, man'.⁵⁹

By the time of May's trial, Broda had been refused the necessary entry visa to Austria by the Allied Control Commission. In August, 'Kaspar' reported that 'Edith Tudor Hart is again in closer contact with Engelbert Broda after keeping away from him for a time as a precautionary measure'.⁶⁰ Broda took a temporary post at Edinburgh University, but there was mounting concern about his impending return to Austria and possible defection to the Soviets. His future was discussed at a Tube Alloys meeting in September when it was decided that MI6 and the secret services would be consulted, although he was believed not to be in possession of highly secret information.⁶¹ A remarkable report from 'Kaspar', the following week, suggests that Broda had an inkling of the first Soviet steps towards an H-bomb.

Before leaving for Edinburgh, Dr Broda had several confidential talks with Edith Tudor Hart about the Russian experiments on atomic bombs. According to Broda, the Russians have already solved the problem or are near the solution. Broda states that contrary to the Anglo-American method, the Russian scientists have found a way of releasing atomic energy through the combination of '24 H atoms to He' [*sic*] which proves to be much cheaper and more efficient.⁶²

The Ministry of Supply, which oversaw Tube Alloys, could see no reason to prevent Broda from returning to Austria and while it was suggested that perhaps he should be offered a position in the USA (in a program sponsoring Austrian and German scientists), he returned to Vienna in April 1947. He supervised PhD students in radiochemistry at the university and according to a US intelligence report in 1950 ran 'an information network with tentacles in every department of the Chemistry Institute'.⁶³ Broda led a distinguished career as a scientist over the next three decades.⁶⁴

⁵⁸Statement on Dr Nunn May issued by the Association of Scientific Workers, London (14/5/46) CHAD IV, 6/29, Churchill College Cambridge.

⁵⁹J.H. Marriott to R. Hollis (25/11/46), KV/2/2214, NA, Kew.

⁶⁰MI5 minute on E. Broda (22/8/46), KV/2/2354, NA, Kew. 'Kaspar' previously mentioned Broda had been in contact with Litzi Philby in April 1946.

⁶¹Minute of Tube Alloys meeting (12/9/46), KV/2/2354.

⁶²MI5 minute on E. Broda (19/9/46), KV/2/2354. The Russians were working on thermonuclear weapons in 1946 after being alerted to their feasibility by Fuchs the previous year, see M.S. Goodman 'The Grandfather of the Soviet H Bomb?: Anglo-American Intelligence and Klaus Fuchs', *Historical Studies in Physics and Biological Sciences*, 34/1 (2003) pp.1–22. It is astonishing that Broda seems to have had some knowledge of this, given the level of Soviet security, and that he would share it with Edith Tudor Hart.

⁶³US Forces in Austria special biweekly report #115 (14/4/50), KV/2/2354, NA, Kew.

⁶⁴Engelbert Broda (1910–83) wrote books about the use of radioactive isotopes in biochemistry, the origins of life and a biography of Ludwig Boltzmann. He was active in Pugwash and in the 1970s took a prominent role in organizing the public debate over nuclear

Linked through Matrimony

May was released from prison in December 1952 (with remission for good behavior) after discussion at cabinet level. It was a time of great tension in Anglo-American nuclear cooperation, with heightened security concerns in Washington on the heels of Fuchs' exposure as a spy and the defection of Burgess and Maclean, and with the execution of the Rosenbergs imminent. In a briefing the Foreign Secretary was warned that May's 'departure for an Iron Curtain country would give rise to considerable public outcry both in this country and the USA and would endanger the chances of US-UK collaboration in atomic matters'.⁶⁵ He was also reminded that there was no legal way of preventing May from leaving the country, even though he did not hold a valid passport. The best way of retaining him would be to find him an interesting job in science that had no defense ramifications. May said that he had no intention of going abroad and issued a short press statement asking for his privacy to be respected, while making it plain that he was unrepentant: 'I myself think that I acted rightly and I believe many others think so too.'⁶⁶

Prime Minister Churchill, not surprisingly, asked for close police supervision which was arranged through mail intercepts, phone-tapping and the recruitment of informants in the village of Chalfont St Peter, where May went to live with his brother.⁶⁷ None of these measures revealed that May was planning to marry Hildegard Broda in August 1953 (she had divorced Engelbert in London in 1946 and was working as an assistant medical officer for schools in Cambridge).⁶⁸ Fleet Street was more prepared and gave the event celebrity coverage with photos of the bridegroom. A chagrined MI5 memo began 'As you will have seen from the newspaper reports...' before making the connection: 'Her former husband is Engelbert Broda a scientist now resident in Austria, who was employed on the Tube Alloys project during the war. He was working at the Cavendish Lab Cambridge in 1942 when Nunn May was there.'⁶⁹ MI5 immediately tapped her phone and a frequent caller, who spoke to Hilde in German, was Eric Hobsbawm – the English Marxist historian who spent his childhood in Vienna before bravely joining the communist movement in Hitler's Berlin.⁷⁰

power in Austria, see E. Broda, 'Austria: Nuclear Consultation', *Nature* 264 (1976) pp.103–4. His most original scientific contribution was to predict the existence in 1977 of bacteria that could exist on an intake of ammonia and nitrate without oxygen or carbon. Such bacteria were discovered two decades later and one species has been named for him: *Candidatus* Scalindua Brodae'. See N. Lane, 'Microbiology – Batteries not included', *Nature* 441 (2006) pp.274–7.

⁶⁵E.H. Peck, 'Brief for the Foreign Secretary' (29/12/52), KV/2/2217, NA, Kew.

⁶⁶A.N. May statement to the press (30/12/52), KV/2/2217, NA, Kew.

⁶⁷Special Branch memo (22/1/53), KV/2/2218, NA, Kew.

⁶⁸B. Russell Jones memo (12/8/53), KV/2/2221, NA, Kew.

⁶⁹Ibid.

⁷⁰Another caller 'continually in evidence' was Irene Newton-John, the wife of a Cambridge academic. Her father was the physicist Max Born and she had been a childhood friend of

Like the security authorities, Hilde's main anxiety was for Alan to get a job, and she believed there should be 'a duty' towards Alan and 'thought it unlikely that it [his unemployment] would be allowed to happen in her beloved country'.⁷¹ Hobsbawm agreed and offered the absurd comment that 'it was very bad that there did not exist a department which dealt with cases of this type'. He promised to contact his colleague at Birkbeck College London, the physicist Desmond Bernal,⁷² who soon convinced his friend and secretary of the AScW, W.A. 'Peter' Wooster, to employ May at his scientific instrument company in Cambridge. By doing so, Bernal and Wooster inadvertently relieved the state of considerable anxiety. A decade later, Bernal secured the chair in physics at the University of Ghana for May (by then allowed to travel) and he worked there until retirement in 1976.⁷³

May's marriage to Hilde reflected the security spotlight back onto Engelbert Broda. An MI5 minute in October 1953 said that 'the possibility that the BRODA's played some part in the espionage of Nunn May came at a happy time, for we were already studying Engelbert BRODA's case in another connection. As a result of that study we feel sure that BRODA was engaged in espionage during the war, although we have no proof of it.'⁷⁴

The final paragraph of the minute stated:

I think therefore that the answer to your question is that Engelbert BRODA might well have been the person who recruited NUNN MAY for the R.I.S [Russian Intelligence Service]. You will remember that one of NUNN MAY's few admissions in an interrogation which took place at Wakefield Prison on 21st March 1949 was that he was recruited to the R.I.S. only a very short while before he left the country for Canada and the individual who recruited him was no longer still within reach. Mr Skardon to whom this information was given was inclined to believe that NUNN MAY's statement was true.

Deceitful to the Last

Mr Skardon was William 'Jim' Skardon, an ex-policeman who joined MI5 during the war.⁷⁵ His interrogation technique was low-key and unfailingly

Hilde's. MI5 noted that the Newton-Johns were emigrating to 'Melbourne, Australia in the near future' which is of course where their daughter Olivia was born. Minute from B. Russell Jones (2/12/53), KV/2/2223, NA, Kew.

⁷¹One assumes that Hilde was referring to the USSR! Transcripts of Hilde's phone calls with Hobsbawm in October/November 1953, KV/2/2222, NA, Kew.

⁷²Bernal's nickname 'Sage' was translated by MI5 as the 'Wise Man'.

⁷³Andrew Brown, *JD Bernal: The Sage of Science* (Oxford: OUP 2005) p.407.

⁷⁴Minute 856 signed by R.T. Reed (14/10/53), KV/2/2222, NA, Kew.

⁷⁵Skardon made his name by persuading Klaus Fuchs to make a complete confession in 1950 about his spying activities. See N. Moss, *Klaus Fuchs: The Man who Stole the Atom Bomb* (London: Grafton 1989). In 1951, Skardon unsuccessfully interrogated Kim Philby after the defection of Burgess and Maclean, but rattled him badly when he brought up the name of

polite; he came to visit May on 21 March 1949 at Wakefield goal. Announcing that he was from the security services, Skardon told May he did not have to answer any questions. The two men had a 90-minute conversation 'of the friendliest character, but the only real information that I could obtain was that his recruitment ... took place literally a few hours before he left England for Canada, and that the individual for whom I might be looking in this connection was well out of my reach'.⁷⁶ Skardon formed the impression, 'on no firm grounds' that the person was a member of the Soviet Embassy, who later followed May to Canada. Skardon judged him to be 'a difficult and lonely sort of individual [who] was not much impressed by my argument that by indicating the individuals responsible for his defection, he might save others'. Indeed the 'only argument that affected him in any way at all was my suggestion that if he did not indicate the persons responsible for his downfall I should be left to browse amongst the names of his friends, associates and colleagues, perhaps to the disadvantage of one of them'. Skardon attempted to maintain a relationship with May after his release, visiting him at his brother's home in January 1953. There had been some suggestion that May's life would be easier if he changed his name – a course he rejected as deceitful, telling Skardon that he wanted 'to avoid anything even slightly subversive'.⁷⁷ Skardon came away impressed by May's 'anxiety to make a fresh start'.

Before MI5 settled on Broda as the man who recruited May, there was equal suspicion of their mutual friend, Lew Kowarski. The three met up in London on 14 January 1946 just two days after Kowarski arrived back from Canada, and May phoned Kowarski asking to see him again three days after that meeting.⁷⁸ A source of 'unknown reliability' reported that Kowarski had been a communist who, prior to 1940, worked for the Russian secret service.⁷⁹ An internal MI5 memo again raised questions about him, as a French national of Russian origin who worked at the Cavendish with Broda and May. But the officer did 'not put his name forward as a particular suspect but ... the sort of foreigner who has been closely associated with the project and who is now working under a communist master [Joliot-Curie]'.⁸⁰ The innuendo was too much for Kim Philby, who offered the opinion that:

Kowarski is very highly thought of both as a friend and colleague by his British scientific colleagues. Personally I have a very high opinion of

Tudor Hart (deliberately calling her Elizabeth not Edith to see whether Philby would correct him), see Borovik and Knightly, *The Philby Files*, pp.301–2.

⁷⁶W.J. Skardon, 'Alan Nunn May' minute (26/3/49), KV/2/2215, NA, Kew.

⁷⁷W.J. Skardon, 'Alan Nunn May' minute (6/1/53), KV/2/2217, NA, Kew. It is easy to believe that a name change would have caused even more gaps in May's security files.

⁷⁸Transcript of phone call between Nunn May and Kowarski (17/1/46), KV/2/2212, NA, Kew.

⁷⁹MI5 minute on Kowarski (25/3/46), KV/2/2589, NA, Kew.

⁸⁰J.H. Marriott memo to Lt Col Collard, (10/9/46), KV/2/2589, NA, Kew.

him. He is undoubtedly very Anglophile. He is part owner of the basic Atomic Energy patent application which he brought to this country in 1940 and placed at the disposal of H[is] M[ajesty's] G[overnment]. He makes no secret of his present activities in the field of Atomic Energy.⁸¹

While this seems, in retrospect, to be a damning endorsement, is it possible that Philby for once was telling the truth? Kowarski was born in St Petersburg in 1907 to a Jewish publisher father and a Ukrainian Christian mother who were not allowed under Russian law to marry.⁸² After the 1917 revolution his father thought that Lenin would last in power for only six weeks. When the Bolsheviks proved more durable, he left St Petersburg with his young sons and slowly migrated across middle Europe to France, where Lew completed his education and became a scientist. Far from showing any communist affiliations, Kowarski believed 'Communists are Jesuits: they have no sincerity. They are a clique of power-grabbers.'⁸³ To one of his French colleagues, Kowarski, a restless character, appeared to have 'convinced himself that his "natural milieu" was Anglo-American',⁸⁴ although the remainder of his career was in fact spent in European nuclear circles. In the mid-1950s, MI6 carried out its own assessment of the communist penetration of the French atomic energy agency and concluded that Kowarski was neither a communist nor a communist sympathizer.⁸⁵

In his prison talk with Skardon, May claimed that he did no damage to his country or its interests by passing material to the Soviets. He merely wished to encourage an ally by telling them that the atomic bomb was a feasible weapon. The whole subject of atomic research was so complicated that 'it would be quite impossible to impart any useful information on the subject ... even to an expert physicist, in less than six months in a laboratory'.⁸⁶ Shortly before he died, May made a fuller confession to his step-granddaughter (Paul Broda's daughter).⁸⁷ The 'only real information' that Skardon believed he obtained, namely that May was recruited hours before sailing for Canada, was now contradicted and a story much closer to Gouzenko's original version re-emerged. May said that he first passed information to the Soviets in 1942 after being asked to analyze a US report that the Nazis were planning to create radioactive, dirty bombs. At the time he was a member of CPGB and used contacts (unnamed) to send warning to the Soviets about this new potential danger from their German attackers. According to May, by 'this course of action, the Russians so to speak "booked" me as an available source of information' and he was

⁸¹H.A.R. Philby memo to J.H. Marriott (4/10/46), KV/2/2589, NA, Kew.

⁸²L. Kowarski oral history (1969–71) AIP Niels Bohr Library OH 266.

⁸³Ibid.

⁸⁴Goldschmidt, *Atomic Rivals*, p.342.

⁸⁵MI6 memorandum on CEA (1/9/55), KV/2/2591, NA, Kew.

⁸⁶W.J. Skardon, 'Alan Nunn May' (26/3/49), KV/2/2215, NA, Kew.

⁸⁷J. Vasagar, 'Spy's deathbed confession: physicist tells how he gave secrets to the Soviet Union', *The Guardian*, 27 January 2003.

subsequently approached about the atomic project when in Canada.⁸⁸ 'It seemed to me that they ought to be informed', he said, 'so I provided all the information I could.'⁸⁹ He now admitted to passing far more information than he confessed to in 1946, and again illustrates how he had managed to mislead Skardon.

Because I had access to the entire library of research documents on nuclear power (a great deal of which was provided by the USA), I was able to borrow these documents from the library and hand them over to the agent who would take them to Ottawa, photocopy them, transmit them to Russia and then return them to me.⁹⁰

Just from the international group of theoretical physicists and mathematicians working in the Montreal lab, 80 secret reports were generated. According to a technical review,⁹¹ these Montreal Theory reports 'developed from first principles most of the important aspects of modern reactor theory', and they represented a significant body of work that would inform nuclear engineers for decades, even though most of it was never published in the open literature. So if May just copied these reports, he provided Soviet engineers and physicists with a feast of new ideas and reliable theories.

May's Spying in Context

May was neither the first nor the last to purloin sensitive information from the Montreal program. In July 1944, General de Gaulle visited Canada and was given the bare details of the Manhattan Project by Guéron, who was specifically chosen for the task by the other French scientists because he alone had not signed the British Official Secrets Act when taking up work at the Cavendish.⁹² When Kowarski left Montreal at the end of 1945, he asked Cockcroft for guidance about what written materials he might take with him. Cockcroft, at the eye of the developing May storm, told him: 'You should take no written documents to France [but] ... if you have a little notebook, a diary with notes etc., that could hardly be considered as a written document.'⁹³ Cockcroft was renowned for keeping copious notes in tiny handwriting and as he gave this answer to Kowarski, he indicated one of his own thick black books lying on the desk, saying that could not be considered a written document. So Kowarski gathered together all his laboratory books with their data on the Zero Energy Experimental Prize (ZEEP) reactor and plutonium

⁸⁸Ibid.

⁸⁹B. Cathcart, 'Obituary: Alan Nunn May', *The Independent*, 29 January 2003.

⁹⁰Ibid.

⁹¹M.M.R. Williams, 'The Development of Nuclear Reactor Theory in the Montreal Laboratory of the National Research Council of Canada (Division of Atomic Energy) 1943-46', *Progress in Nuclear Energy* 36/3 (2000) pp.239-322.

⁹²Goldschmidt, *Atomic Rivals*, pp.213-17.

⁹³L. Kowarski oral history, 1969-71 AIP Niels Bohr Library OH 266.

production and carried them to London in a diplomatic bag, which he delivered to the French Embassy. Cockcroft further aided the French in January 1946 when he sent Kowarski on a site visit to an ICI plant and asked him for a progress report on the firm's work with metallic uranium.⁹⁴ In a similar vein, Chadwick wrote to a British scientist at Los Alamos, the same week that he learned about May's spying, saying 'We cannot leave all our information behind and go home with empty hands.'⁹⁵

Indeed May himself was apparently employed in the British efforts to extract nuclear knowledge from the Americans. He explained 'at some length' to Skardon how he was sent down to Chicago by his superiors in Canada to work in the American development plant, and how he was told unofficially to keep his eyes and ears open and to report back anything interesting that he might discover. On his return his superiors told him that he must not prepare a written report on his findings as it could be extremely embarrassing to the British Government in their relationship with the American State Department.⁹⁶

At the time of May's exposure, Prime Minister Attlee was drafting a letter to President Truman pressing the case for the international regulation of atomic weapons and bringing to his attention the inevitable consequence that 'the harnessing of atomic energy as a source of power cannot be achieved without the simultaneous production of material [plutonium] capable of being used in a bomb'.⁹⁷ Truman confronted a maze of problems relating to atomic energy, including a US military reluctant to relinquish control of fissionable materials and the need to pass legislation in Congress (for which he turned to Senator McMahon); two of his most senior advisers (Secretary of State Byrnes and Vannevar Bush) warned against any continued arrangements with Britain. To many in the US administration, the May case illustrated the dangers resulting from the dissemination of atomic knowledge. Truman bowed to the anti-British pressures and informed Attlee in April 1946 that there would be no American assistance to build an atomic energy plant in the UK. While Klaus Fuchs has eclipsed him in the annals of nuclear espionage, May's activities had a profound effect on Anglo-American relations whatever difference they made to the Soviets.

In his unreliable remarks to Skardon, May said 'he considers himself a socialist, that he is pro-British, has never wished to harm this country and has never been anxious to assist any other country'.⁹⁸ In her book *The*

⁹⁴All of which may explain why Philby was anxious to clear Kowarski of any communist smear. Perhaps the information that Kowarski delivered to Paris was then forwarded to Moscow. Kowarski's personal assistant at CEA in Paris, Lydia Cassin, was an open communist. Like Kowarski she was originally from St Petersburg; MI5 noted that she once visited the physicist Bruno Pontecorvo at Harwell (he had worked in Paris before the war and would later defect to the USSR). KV/2/2590, NA, Kew.

⁹⁵Brown, *The Neutron and the Bomb*, p.301.

⁹⁶W.J. Skardon, 'Alan Nunn May' (26/3/49), KV/2/2215, NA, Kew.

⁹⁷Brown, *The Neutron and the Bomb*, pp.309–20.

⁹⁸W.J. Skardon, 'Alan Nunn May' (26/3/49), KV/2/2215, NA, Kew.

Meaning of Treason, Rebecca West took an uncompromising stand against May, despite having access to only limited information then in the public sphere.⁹⁹ She pointed out that he made a voluntary decision to participate in atomic research and was not coerced to sign the secrets agreement. She doubted the purity of his motive to ensure the free dissemination of scientific knowledge because he advised the Soviets against recruiting another British communist, Norman Veal, partly on the grounds that he was inclined to be careless and indiscreet. West also claimed that for espionage trials in England, Soviet agents were instructed to plead guilty and 'to admit to the police their participation in the particular crime of which they are accused, and nothing more'.¹⁰⁰ May's behavior conformed exactly to this pattern and, forewarned, he revealed far less under interrogation by Skardon than Fuchs did. Even his last confession was incomplete. Given three weeks before his death, 'This is a disclosure of how I became a Russian spy' again failed to reveal details of his Soviet contacts (one of whom may well have been the biological grandfather of the woman to whom he was confessing). Some years ago, I suggested to Rudolf Peierls (Fuchs' wartime scientific chief) that May's spying was well-intentioned and less damaging than others of the period; he commented that he did not see 'any real differences between his activities and those of the "Cambridge spies"'. They were in positions which gave them greater opportunities.¹⁰¹ Like Broda, May never disavowed communism.

Conclusions

The Viennese connection illustrates how a group of educated young people from privileged backgrounds can accept refuge from religious and political persecution and then seek to undermine the tolerant society that has taken them in. In the case of the Austrian communists, their backgrounds gave false assurance to British and Austrian well-wishers. This Byzantine story also reminds us of the fragile nature of human intelligence. Both Edith Tudor Hart and May first came to the attention of the security services merely by being seen in the company of known communists in a public place – in a country where it was not even illegal to be a communist. The British security services consistently showed a light hand on the tiller, nearly always choosing intelligence gathering over apprehension. The Americans, in particular after the war, castigated the laxity of British security clearances, but one must remember the context of a desperate wartime situation when many of the scientists who could provide valuable service were known radicals. May was a junior figure compared to Bernal and Blackett,

⁹⁹Rebecca West, *The Meaning of Treason* (London: Macmillan 1949).

¹⁰⁰Ibid., pp.179–80. According to West, this was a compliment to the forensic efficiency of the English court system in detecting a false plea of innocence, whereas in the USA the Soviet policy was to plead 'Not Guilty' – 'no matter how absurd this may be in view of the real facts'.

¹⁰¹R. Peierls letter to the author, 11 January 1994.

who both made extraordinary contributions to the war effort. Bernal was known to be a communist when he was first hired for government work in 1939 – Sir John Anderson told his civil servants that he did not care if Bernal was ‘as red as the fires of hell’. When Bernal was immersed in crucial planning for the D-Day landings, Roger Hollis of MI5 wrote the following memo to the War Cabinet setting out the balance that was being consciously struck:

Bernal is an outstandingly brilliant scientist whose work should not be lost to this country if that can be avoided. It therefore remains to be considered whether the positive gain of his work for this country does not outweigh the risk of his communicating details of that work to the C[ommunist] P[arty] ... It is only fair to say that Professor Bernal has been employed on secret work for the Government throughout the war, and that we have not detected any leakage to the CP about matters in which he has been concerned.¹⁰²

Bernal and Blackett never made any attempt to conceal their political beliefs but, unlike May, were men of their word.

¹⁰²R. Hollis memo to A.J.D. Winniffrith (22/12/43), KV/2/1811, NA, Kew.