

Chapter Four: Atomic secrets and the British nuclear spies

Two famous spy cases centred on members of the British Mission. As has already been stated, Klaus Fuchs was at the heart of the theory group in Los Alamos and knew an extensive amount of secret information. The other man from the British team to seriously breach security was Alan Nunn May, working on the Canadian heavy water project in Montreal. He had previously spied while working in Britain before being posted to Canada, where Soviet contact with him was re-established. He was exposed when information given by the Russian defector Igor Gouzenko uncovered an extensive Soviet espionage ring.¹ Gouzenko defected in September 1945 to the Canadians as he saw the prosperity of the West was infinitely more attractive than anything the Soviet Union had offered.

There were various delays due to the Canadian authorities refusing to accept Gouzenko's story and he became fearful the Soviet Embassy would track him down. The Royal Canadian Mounted Police took Gouzenko into custody where he 'volunteered information supported by documentary evidence of an espionage network operated in Canada'² by the Russian Military Attaché in Ottawa, Colonel Zabotin. The documents Gouzenko supplied showed code names of people working on the atomic programme in the States and Canada who had passed secret technical files to the Soviet Union. Nunn May was referred to by the code name 'Alek' and Gouzenko alleged that May had been 'for at least the last ten months, working as a spy for the Russians in Canada.'³ It was said he'd also been a secret member of the Communist Party in

¹ Igor Gouzenko was born in Russia on 13th January 1922. He worked as a cipher clerk for the Russian legation in Ottawa, Canada. This was really a cover story to hide the fact that Gouzenko was a KGB spy. On 5th September 1945 he defected to the West claiming a Soviet spy ring was at work in Britain.

² KV 2/2209, May, Alan Nunn, *Minute 42, 18/9/45*, National Archives, p. 1

³ KV 2/2209, May, Alan Nunn, *Minute 42, 18/9/45*, National Archives, p. 1

England and some work colleagues were aware of this while believing that political opinions should not impinge upon work commitments. Nunn May was due to come back to England to take up an academic post at King's College London. Due to his outstanding abilities, he had been recommended for further involvement in atomic research for Britain by John Cockcroft, the Director of the Montreal Laboratory in Canada.

The copies of secret files from Moscow alleged Nunn May was due to meet his Russian contact in England on the 7th, 17th and 27th of October 1945. On the 10th of September the Canadian Prime Minister, Mackenzie King⁴, informed John Cockcroft about his colleague's treachery. Cockcroft listened with a fascinated horror. What Nunn May knew 'amounted to a great deal.'⁵ He was aware of most of the work done in the United States on the atom bomb and had extensive knowledge of the Canadian reactor programme. Also, he knew about the Trinity test and had allegedly handed over samples of uranium 233 and 235 to his Russian contact which had by then been despatched to Moscow. He had allegedly given information regarding 'an electronic device used by the U.S Navy against Japanese suicide aircraft.'⁶ Cockcroft was warned by the Canadians to keep a close watch on Dr May's activities. 'He should be allowed to continue his work, so as not to arouse in him any suspicions that he was being watched'⁷ but he was not to be informed of any significant new information. It was decided not to withdraw Cockcroft's earlier recommendation for May to work on atomic research as this could have alerted him to the fact he was under surveillance and he could have tried to leave the country. The fact that information had been supplied on electronic devices

⁴ W.L Mackenzie King was born in Ontario in 1874. He had led the Canadian Liberal Party in 1919 and was first elected Prime Minister in 1921. He had three terms as Prime Minister of Canada; the third from 1935 to 1948 saw him strike up a close alliance between Canada, America and Britain to help cement the Allied war effort.

⁵ Montgomery Hyde, H *The Atom Bomb Spies*, London, Hamish Hamilton, 1980, p. 24

⁶ KV 2/2209, May, Alan Nunn, *Minute 72b*, 24/9/45, National Archives, p. 1

⁷ Montgomery Hyde, H *The Atom Bomb Spies*, London, Hamish Hamilton, 1980, p. 25

was intriguing because that was not the area that May had direct knowledge of and was an American rather than a British project. This could have meant that a colleague of May's had given him the information to pass on or even that sub-agents were involved in other areas where May didn't have direct access to the information.

A Secret Service agent followed Nunn May onto the plane bound for England on 16th September to observe if he could have any confidential papers with him. His movements in London were closely monitored so the Russian contact could also be identified. It was hoped if May established a contact in England this would implicate more individuals in the network. Wallace Akers was informed of the case and was visibly shocked. He said if he'd been asked to make a list of the researchers in Canada based on integrity 'he would have placed May at the top.'⁸ Atomic papers were not to come into Nunn May's possession; if the Americans found him to still be able to read those reports they would very likely cease collaboration altogether with Britain on the entire project.

Much to the disappointment of the Intelligence Service, the rendezvous dates mentioned in the Russian documents for October were not kept. No arrests were made for a time while Canada and Britain made inquiries into how vast the espionage system had become. It was necessary to synchronise the arrest of May with the arrests of those suspects in Canada. If this were not done, 'compromising documents in possession of suspects in Canada and the U.S.A would be destroyed.'⁹ Added to this, there would certainly be diplomatic storms between the Soviet Union, the U.S.A, Canada and Britain when the case was brought into the open. Gouzenko's

⁸ KV 2/2209, May, Alan Nunn, *Minute 46a*, 19/9/45, National Archives, p. 1

⁹ KV 2/2209, May, Alan Nunn, *Minute 72b*, 24/9/45, National Archives, p. 1

information had implicated ‘upwards of sixteen individuals’¹⁰ and their arrests would probably lead to further suspects being uncovered.

Dr. May was kept under surveillance. His telephone calls and letters were checked and he was watched to make sure he turned up for the teaching post at King’s College and didn’t attempt to flee to Moscow. There was a suggestion made that his luggage on the cargo ship from Canada could be searched to see if any confidential information was hidden inside the crates. However, this idea was thought too likely to arouse suspicions and the intelligence service felt there was ‘very little likelihood indeed of there being anything in May’s effects of interest to us’¹¹ so the idea was scrapped. The handwriting on covering letters attached to the documents from Moscow appeared to match that of May and this was considered grounds for an arrest, although corroborating evidence was needed. To stop May leaving the country, airports where Russian planes normally landed and took off were watched, with a picture of the suspect handed to immigration officers. Sea ports were not so easy to control due to their number and it was realised this method of escape could not be effectively removed.

May was questioned by Special Branch on 15th February 1946 and originally denied all knowledge of meeting any Soviet contact, acting with surprise when informed of the leakage of information in Canada. He was interrogated again on 20th February and confessed to what he’d told the Soviets. He made a written confession of his crimes, admitting to handing over samples of uranium and passing information about the atomic bomb, although this would not have been extensive as he was not based at Los Alamos. He had ‘no connection whatever with

¹⁰ KV 2/2209, May, Alan Nunn, *Minute 72b*, 24/9/45, National Archives, p. 1

¹¹ KV 2/2209, May, Alan Nunn, *Minute 56*, 21/9/45, National Archives, p. 1

problems of the construction of the atomic bomb'¹² and could therefore not have passed on the 'know how' of manufacturing one. The October rendezvous outside the British Museum was not kept as Nunn May said he'd wished to wash his hands of espionage work when he returned to England.

In his defence, Nunn May said he'd acted according to his beliefs at the time, that atomic energy should not have been a monopoly for the United States alone and there should be some form of international control. He was not alone in thinking this way. There were many scientists who felt creating a nuclear monopoly would do more harm than good. Atomic information should have been freely shared 'with a country that was not only friendly but a fighting ally'.¹³ There was indignation that the Soviet Union had been promised technical knowledge and assistance during the war and this had not been delivered. Deliberately shutting the Soviet Union out had 'largely contributed to'¹⁴ the downturn in international relations.

This case was especially damaging for Britain as Allan Nunn May had been a direct informer to the Soviets. His information had helped them gather a picture of the manufacturing process of plutonium. The Russians were informed the Canadians and British were aware of 'the net' as the spy ring was called. This was serious as a deterioration of diplomacy between the Soviets and the West here could have sparked another war. The arrest of Nunn May was on 4th March 1946 and the trial was held on 1st May. He pleaded guilty to breaking the Official Secrets Act and was jailed for 10 years. May was unrepentant over his actions, refusing to divulge the

¹² CHAD IV 6/29, Canadian Spy Case 1945-1946, *Statement on Dr. May issued by the Association of Scientific Workers, London, 14/5/46*, Churchill Archives Centre, p. 1

¹³ CHAD IV 6/29, Canadian Spy Case 1945-1946, *Statement on Dr. May issued by the Association of Scientific Workers, London, 14/5/46*, Churchill Archives Centre, p. 1

¹⁴ CHAD IV 6/29, Canadian Spy Case 1945-1946, *Statement on Dr. May issued by the Association of Scientific Workers, London, 14/5/46*, Churchill Archives Centre, p. 1

identity of his Russian contact. The judge told him he'd acted with conceit, in contradiction to May's defence of being a man of honour.

A delegation later pressed for a reduction in the sentence passed to Dr. May, arguing that the information he'd passed over had since been released into the public domain, primarily through the American publication of the Smyth Report.¹⁵ B.A Hill wrote to Roger Hollis of M.I.5 saying this missed the point. If information was handed over in the early development stage, this would have enabled the Russians 'to develop their research on more modern lines and might save them considerable time.'¹⁶ Thus the sentence of ten years was justified and divulging atomic secrets was especially serious as the subject was in the early stages of scientific development.

After the Canadian spy ring was revealed, this pointed the finger of suspicion once more on the scientists from France who'd worked with Nunn May on the heavy water project. Hans Halban was known to have given certain information regarding graphite piles to the French so was naturally suspected of handing over technical secrets. He made many long distance calls and had frequent visits to his doctor in New York which 'laid him open to a certain amount of suspicion.'¹⁷ He was noted for his unusual character and inability to get along with others in his group. His 'eccentric and overbearing personality'¹⁸ made him unpopular and according to his

¹⁵ The Smyth Report was the official report written by Henry De Wolf Smyth summarizing the development of the atomic bomb in the United States during the war. It outlined the development of the bomb and areas of the Manhattan Project such as Los Alamos and Oak Ridge. The report was used by scientists as a barometer for information that had been declassified. If information on the atomic bomb was in the report, it was therefore in the public domain and could be published elsewhere. The report was released to the American public after the bombings of Hiroshima and Nagasaki. It was meant to give enough information on the bomb so that sensible policy decisions regarding atomic weapons could be made.

¹⁶ KV 2/2226, May, Alan Nunn, *Minute 49a, Hill to Hollis*, National Archives, p. 1

¹⁷ KV 2/2422, Hans Halban Security File, *Dr. Hans Halban*, National Archives, p. 2

¹⁸ KV 2/2422, Hans Halban Security File, *Dr. Hans Heinrich Halban 60a*, National Archives, p. 1

security files ‘he was a difficult and irritating person to work with or for.’¹⁹ However, casting aspersions on his character didn’t prove wrongdoing and the British were confident he’d not passed over technological know how when he mentioned the graphite piles to Frédéric Joliot-Curie.

The fact that Lew Kowarski had been a contact of Alan Nunn May was noted in a Special Branch report. However, the execution of their work in Canada ‘inevitably led to their close association.’²⁰ There was also a report of unknown reliability that alleged Kowarski was a Communist and ‘prior to 1940 he had worked for the Russian Secret Service.’²¹ Another notably curious piece of circumstantial evidence was the address of 65, Canfield Gardens where Kowarski had resided for a while in the UK. This same house was the address of Gessel Schkolnikoff, a Russian dentist who in 1931 ‘appeared to be doing dental work for the Communist Party’²² although how the Security Service reached this conclusion is not clear. It was also speculated that Kowarski’s wife, Dora, was related ‘either to Schkolnikoff or his wife.’²³ Quite apart from these entertaining pieces of speculation there was obviously no conclusive evidence of Kowarski’s involvement in espionage but the Security Services were exceptionally nervous after the high profile spy case in Canada, and were therefore at least trying to thoroughly check scientists’ backgrounds.

¹⁹ KV 2/2422, Hans Halban Security File, *Dr Hans Halban*, National Archives, p. 1

²⁰ KV 2/2589, Lew Kowarski, *Special Branch note 29/4/48*, National Archives, p. 2

²¹ KV 2/2589, Lew Kowarski, *Special Branch note 29/4/48*, National Archives, p. 2

²² KV 2/2589, Lew Kowarski, *Departure 45a, 22/1/47*, National Archives, p. 1

²³ KV 2/2589, Lew Kowarski, *Departure 45a, 22/1/47*, National Archives, p. 1

Jules Gueron was investigated as he had worked on heavy water and was known to have connections with Bruno Pontecorvo²⁴ who had a socialist background. The pair was said by Harwell's Security Officer 'to exchange visits and to be on friendly terms with each other.'²⁵ Again, this evidence was largely circumstantial and only grounds for suspicion rather than guilt. The evidence against the French members of the British mission was flimsy at best and there was no definite indication the French had added to the information passed to the Soviet Union by Alan Nunn May.

Far more useful to the Soviets was the information given by Fuchs who had worked in Britain during the early stages of the Tube Alloys project. He had spent a period of internment in Canada during the first part of the war. He had been called back by Peierls at Birmingham to work on mathematical calculations for the bomb. Fuchs was a German refugee and had been shown to have ties with the Communists. He had been sent to Los Alamos in 1943 and was doing calculations for the plutonium bomb. 'Fuchs worked on the difficult problem of calculating the implosion method, and this put him at the center of the work on this new approach to the design of an atomic bomb.'²⁶ He then told all he knew to the Soviets. The FBI had suspicions about a spy from the British project due to decoded Soviet messages from 1944 showing leakage of technical information from the Manhattan Project. Peierls had been originally suspected as 'his eminence in British scientific circles allowed him access to many

²⁴ Bruno Pontecorvo was born in Pisa in 1913. He was an early assistant to Enrico Fermi and studied fundamental particles. He studied at the University of Rome and in 1936 he moved to Paris to work with Frédéric and Irene Joliot-Curie. Pontecorvo developed socialist views while in France so was not asked to assist with the Manhattan Project. However, in 1948 Pontecorvo was asked by John Cockcroft to help with the British atomic bomb and his surprise defection to the U.S.S.R in 1950 made the British atomic experts uneasy, lest anymore secrets be divulged to the Russians. Pontecorvo hadn't gained extensive knowledge of the atom bomb; his specialty was the study of the neutrino.

²⁵ KV 2/2592, Gueron, Jules Security File, *Note*, 20/1/48, National Archives, p. 1

²⁶ Holloway, D *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939-1956*, London, Yale University Press, 1994, p. 106-107

secret documents.²⁷ Peierls was also a German refugee; he and Fuchs had worked together at Birmingham University in the early part of the war. The American suspicions of Peierls abated when they could find no hard evidence against him.

By the autumn of 1949 they had narrowed it down to Fuchs. The authorities went cautiously. If he was alerted, there was a chance he could ‘take wing to Moscow, and there was no means of preventing him from doing this since there was nothing against him which could be brought out in court.’²⁸ The F.B.I informed M.I.5 of their conviction that Fuchs would prove to be the culprit. British Intelligence knew they had to get him to openly confess to his actions otherwise ‘the British could not arrest him without Moscow’s deducing that someone had broken their codes.’²⁹

The Intelligence Services enlisted the help of Wing Commander Henry Arnold, who was security officer at Harwell nuclear research facility where Fuchs then worked. Distribution of top secret papers went through Arnold so he would ‘be in a position at any given time to ascertain the whereabouts of any Top Secret paper.’³⁰ If a daily account of what papers were in Fuchs’ hands could be obtained, this would show if he kept any for longer than was necessary. So as not to arouse suspicion, Arnold was instructed not to make any specific inquiries unless instructed to do so by M.I.5. He was asked to give what he already knew, such as ‘Fuchs’

²⁷ Szasz, F.M *British Scientists and the Manhattan Project: The Los Alamos Years*, London, Macmillan, 1992, p. 83

²⁸ Montgomery Hyde, H *The Atom Bomb Spies*, London, Hamish Hamilton, 1980, p. 99

²⁹ Williams, R.C *Klaus Fuchs, Atom Spy*, Massachusetts and London, Harvard University Press, 1987, p. 120

³⁰ KV 2/1247, Fuchs, Emil Julius Klaus, *Visit by Wing Commander Arnold, 10/10/49*, National Archives, p. 1

habits, regular movements, friends, personal description, present address, telephone extension number, etc'.³¹ It was decided to keep a 24 hour watch on Fuchs' activities.

When Fuchs was interrogated by William James Skardon of Scotland Yard on 21st December 1949, he originally denied knowledge of meeting any Soviet agent and, like Nunn May, acted as though the accusations surprised him. However, on 13th January 1950, he decided to confess. The biggest shock Skardon had was finding out Fuchs had transmitted secrets for seven years, starting in 1942 up to 1949. Michael Perrin from the Tube Alloys project also interrogated him. While he was working at Birmingham University in 1942 and 1943 he passed on details to his Russian contact 'of all the work on which he was himself directly engaged.'³² This work included details about the separation of uranium 235 and the fact that this material could be important in making an atomic bomb. It comprised 'copies of all the reports which he wrote while at Birmingham University.'³³ In fact, the report he wrote jointly with Rudolf Peierls on diffusion theory appears to have been in Soviet possession by early 1943. This report was so complete that the Russians were able to skip the research stage of that method of isotope separation and move on to experimental work instead.

While Fuchs was working in New York he did theoretical and mathematical work for the team at Oak Ridge separation plant. He passed this information on to his next Soviet contact including 'copies of all the reports prepared in the New York office of the British Diffusion

³¹ KV 2/1246, Fuchs, Emil Julius Klaus, Fuchs Investigation, *Collaboration with Harwell Security Officer*, 7/9/49, National Archives, p. 1

³² PREM 8/1279, Exposure of Dr. Klaus Fuchs: Correspondence with the Security Service, *Summary of Statement by Dr. K.E.J Fuchs of information passed to the U.S.S.R*, National Archives, p. 1

³³ AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 30/1/50*, National Archives, p. 1

Mission.³⁴ Information was also given on the timetable of the American nuclear programme and the estimated critical size of the weapon. These technical details would have been ‘of great value to Russia’³⁵ in confirming it was possible to make a bomb from pure uranium 235.

Fuchs recounted the worst thing he did while working at Los Alamos was to pass the Russians information ‘about the principle of the design of the plutonium bomb.’³⁶ The first meeting there with his Soviet contact took place in February 1945 where a report was transmitted ‘summarising the whole problem of making an atomic bomb as he then saw it.’³⁷ This report explained the ‘special difficulties that would have to be overcome in making a plutonium bomb.’³⁸ It had information on the implosion method for plutonium and estimations of the critical mass. A second meeting took place at Santa Fe in late June 1945. The Russian agent was given a detailed report of ‘all the important dimensions’³⁹ of the Trinity device. Fuchs also told him the problems of the high explosive lens system and levels of spontaneous fission in plutonium 240. The Soviets were especially interested in the explanation of how the high explosive lens system worked and told Fuchs’ contact ‘Raymond’ to pay him for the reports but the money was never accepted. The information relating to the implosion system also contained the vital fact ‘that an aluminium shell had been interposed between the explosive layers and the uranium tamper’⁴⁰ to combat instability in the device. A series of detailed papers

³⁴ AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 30/1/50*, National Archives, p. 2

³⁵ PREM 8/1279, Exposure of Dr. Klaus Fuchs: Correspondence with the Security Service, *Summary of Statement by Dr. K.E.J Fuchs on information passed to the U.S.S.R.*, National Archives, p. 1

³⁶ Montgomery Hyde, H *The Atom Bomb Spies*, London, Hamish Hamilton, 1980, p. 102

³⁷ AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 30/1/50*, National Archives, p. 2

³⁸ AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 30/1/50*, National Archives, p. 2

³⁹ AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 30/1/50*, National Archives, p. 3

⁴⁰ Rhodes, R *Dark Sun: The Making of the Hydrogen Bomb*, New York, Simon and Schuster, 1995, p. 168

was also transmitted about the beryllium-polonium 210 initiators. These were the neutron sources or triggers for a bomb and involved highly complex mathematical calculations due to their tiny size and complicated design.

An inexplicable oversight in the American security arrangements was the apparent lack of surveillance of the British group. They were extensively watched at Los Alamos but not when they left the site. If the Americans were arguing the British were such a threat to security before the Quebec Agreement was signed, why weren't the British under constant watch when they were integrated? This partly explains Klaus Fuchs' extraordinary espionage activity going unnoticed, although he was an intelligent character who deftly hid his emotions and political views. He had signed the Official Secrets Act while he was working on hydrodynamics at Birmingham. Fuchs was warned clearly of the penalties for breaking the act. Peierls had originally employed Fuchs and knew he had left wing sympathies. Peierls had ignored this in the search for a good scientist with time being of the essence. Fuchs had been 'one of the very first to be sent back'⁴¹ to Britain from internment in Canada due to his qualifications and mathematical ability. He was classed as essential personnel for the war effort.

In his very long and technically detailed confession, Fuchs talked of his regret about the damage he'd done to world relations and the Harwell facility in Britain. The Soviets got a huge amount of useful information from Fuchs, who as well as working on the fission bomb, had done theoretical work on the hydrogen or super bomb. He didn't pass on a significant amount of knowledge about the hydrogen bomb as what he knew was 'theoretical, partial and

⁴¹ KV 2/1245, Fuchs, Emil Julius Klaus, *Minute 54: Mitchell to Hollis*, National Archives, p. 1

preliminary⁴² but ‘the fear that he had done so was used to justify President Harry S Truman’s decision to develop “the super”.’⁴³ It was the information supplied by him which was the most dangerous and by sending Fuchs to Los Alamos, Britain knocked out the careful and stringent security measures that Groves spent three years perfecting. Fuchs had been an especially dangerous spy because of his astonishing photographic memory. He was an expert at recalling ‘in detail the most complex and difficult documents in his field.’⁴⁴ At his trial, Fuchs was sentenced to 14 years in prison for breaking the Official Secrets Act. He had not been tried on a treason charge as Britain was not at war with the Soviet Union. He had appeared to cooperate fully with the authorities since his arrest and done what he could to help the police track down others involved in the espionage ring, later identifying his American contact Harry Gold as ‘Raymond’. However, he only identified more suspects after they had been caught or confessed. The Fuchs case jeopardised the chance of a joint Anglo-American project on atomic weapons.

At Fuchs’ trial on 1st March 1950, the judge made him out to be like the character ‘of Dr Jekyll and Mr Hyde. Fuchs himself concurred.’⁴⁵ It shows what levels of self control he must have had as none of his closest colleagues at Los Alamos seemed to have suspected anything about Fuchs’ Communist sympathies.

The fact that most of his colleagues had not worked him out surprised an anonymous informant to the police. This informant had been interned at the same time as Fuchs in Canada

⁴² Williams, R.C *Klaus Fuchs, Atom Spy*, Massachusetts and London, Harvard University Press, 1987, p. 59

⁴³ Williams, R.C *Klaus Fuchs, Atom Spy*, Massachusetts and London, Harvard University Press, 1987, p. 7

⁴⁴ Williams, R.C *Klaus Fuchs, Atom Spy*, Massachusetts and London, Harvard University Press, 1987, p. 45

⁴⁵ Szasz, F.M *British Scientists and the Manhattan Project: The Los Alamos Years*, London, Macmillan, 1992, p. 84

and said 'very many of those'⁴⁶ who were interned with Fuchs 'knew he was a Communist.'⁴⁷ Communists in the camp gave themselves away to others as they differed on certain issues of principle. At the time of this period of internment in 1940, the Russians and Germans had made the Nazi-Soviet pact. This put the Communist internees in a difficult situation. When other internees spoke out for the war or against Germany, a Communist 'would try and join the sentiment without subscribing to any particular form of words which would be in contradiction to the official Russian policy'⁴⁸ of the party and any Communist would act with a degree of reserve over this dividing issue. The informant said many people in his camp could have reported Fuchs at the time if any attempt had been made to check his behaviour when he was appointed to the Tube Alloys work.

Fuchs could not decide whether to be loyal to the West or to the Soviets. He wanted a Communist world but also to protest to Moscow that implementation of their policies was wrong. Groves had not been warned about Fuchs or his Communist sympathies by the British authorities. If he had been, Groves would have zealously followed Fuchs and there is a chance Fuchs may have been discovered before the war was over. Fuchs had even been kept on at Los Alamos after 1945 as he did good work and was much valued. Until June 1946 he continued to work on calculations of future atomic weapons and took part in discussions on declassification of information.

⁴⁶ KV 2/1270, Fuchs, Emil Julius Klaus, *Interrogation by Mr. Serpell in Room 055, 23/3/50*, National Archives, p. 1

⁴⁷ KV 2/1270, Fuchs, Emil Julius Klaus, *Interrogation by Mr. Serpell in Room 055, 23/3/50*, National Archives, p. 1

⁴⁸ KV 2/1270, Fuchs, Emil Julius Klaus, *Interrogation by Mr. Serpell in Room 055, 23/3/50*, National Archives, p. 7

Here the British were arguably at fault for breaching security so seriously. Fuchs had been labelled a Communist when he moved from Germany to Britain in 1933 but this had been dismissed as tainted evidence. Nearly all German refugees were labelled as Communists so it was hard to be certain where their loyalties lay. M.I.5 had vetted Fuchs and cleared him several times as all they could find against him was an old Gestapo report from 1934 accusing him of being a Communist. This clearance meant Fuchs could be employed at Harwell to work on the independent British atomic project. He became a major figure at the establishment and was on almost every committee there. In defence of the British authorities, he was inscrutable and intelligent enough to hide his political leanings. The Gestapo allegation that he was a Communist implied he would be certainly anti-Nazi and this had been seen as an attribute. Most of the people who worked with him at Los Alamos struggled to recall much about him and described him mainly as quiet but polite. His colleagues' reactions to his espionage were mainly of shock and bemusement.

The case had serious repercussions for Britain in international relations. According to Szasz, it 'doomed the delicate negotiations underway to integrate more tightly the American, British, and Canadian nuclear defense plans.'⁴⁹ The Americans started a manhunt to find Fuchs' contact, which was later identified as Harry Gold. The Fuchs case led to other names being revealed and the arrest of the Rosenbergs. It was the start of McCarthyism and anti-left hysteria in the States. The reaction to the news in the U.S was as bad as could be expected, especially in the American media. The Americans were 'sharply critical of United Kingdom

⁴⁹ Szasz, F.M *British Scientists and the Manhattan Project: The Los Alamos Years*, London, Macmillan, 1992, p. 85

Security Authorities for giving Fuchs a clean bill of health in 1943.⁵⁰ General Groves and J. Edgar Hoover⁵¹, the head of the F.B.I, emphasised the role of the F.B.I in exposing Fuchs ‘partly to divert attention from the fact that they failed to spot Fuchs’s contacts or prevent his activities when he was in [the] United States’⁵² but also to gain more support and funds for the F.B.I.

In Britain, the security service was in trouble for its failure to spot Fuchs earlier despite continually vetting him to work on secret nuclear programmes. For example a file on him from 1946 noted not only did he work ‘with the German Communists in 1933 as a penetration agent in the N.S.D.A.P.’⁵³ but he was also allegedly ‘a close friend of Hans Kahle, a Communist in the detention camp in Canada in 1940.’⁵⁴ These two suspicious allegations were not acted upon, with Roger Hollis⁵⁵ bizarrely concluding he could see ‘nothing on this file which persuades me that Fuchs is in any way likely to be engaged in espionage or that he is any more than anti-Nazi.’⁵⁶ Hollis gave the reason that marking out Peierls and Fuchs for their past records may have started a purge of highly valued British scientists.

⁵⁰ FO 371/82902, American Reactions to the Fuchs Case, *Telegram 427 Washington to Foreign Office 6/2/50*, National Archives, p. 1

⁵¹ J. Edgar Hoover was born on 1st January 1895. He had worked in the Library of Congress prior to becoming the first Director of the F.B.I. in 1935. Hoover introduced modern forensic methods to police work including a database of fingerprints. The F.B.I began investigating the background of its employees to make sure no foreign agents could infiltrate the U.S security service. Hoover stayed as Director of the F.B.I until his death in 1972.

⁵² FO 371/82902, American Reactions to the Fuchs Case, *Telegram 427 Washington to Foreign Office 6/2/50*, National Archives, p. 1

⁵³ KV 2/1245, Fuchs, Emil Julius Klaus, *Roger Hollis’ minute no. 55 on Fuchs, 3/12/46*, National Archives, p. 1

⁵⁴ KV 2/1245, Fuchs, Emil Julius Klaus, *Roger Hollis’ minute no. 55 on Fuchs, 3/12/46*, National Archives, p. 1

⁵⁵ Roger Hollis was educated at Clifton and Worcester College, Oxford. He travelled and worked in China prior to joining M.I.5 in the late 1930’s. Hollis became Director General of M.I.5 in 1956. He was later suspected of being a Soviet spy himself, deliberately clearing Fuchs during the late 1940’s as this would benefit the Soviet Union.

⁵⁶ KV 2/1245, Fuchs, Emil Julius Klaus, *Roger Hollis’ minute no. 55 on Fuchs, 3/12/46*, National Archives, p. 1

The Intelligence Services did their best to excuse themselves from blame after Fuchs was exposed. When the F.B.I requested to interrogate Fuchs in a British jail, M.I.5 became very twitchy as they wished to avoid the Americans gaining further information on Fuchs' treason. M.I.5 used the excuse that an American Intelligence officer interviewing a British prisoner would set a precedent 'which might have very awkward consequences in relation to other countries.'⁵⁷ It was legitimate for the U.S authorities to wish to see Fuchs, considering there were so many questions left unanswered. The Americans wanted him to provide more information in an effort to track down any other spies or Russian agents still at large in the States. The request for the F.B.I to see Fuchs was only granted due to the exceptional circumstances of the case and the British security services were convinced the F.B.I were wanting to make the most out of the Fuchs case 'at the expense of M.I.5.'⁵⁸ This was partly true; Hoover was not a fan of M.I.5 and had been livid at Britain's reluctance to let the F.B.I visit Fuchs. Hoover had been running round 'accusing the British of refusing to co-operate'⁵⁹ and the request had been granted to prevent further deterioration in relations between the two countries.

Percy Sillitoe⁶⁰, the Director-General of M.I.5, wrote a memorandum to Prime Minister Clement Attlee dated 7th February 1950. This advised Attlee to emphasise that Fuchs 'was never a member of or associated with the British Communist Party and that he never indulged

⁵⁷ FO 371/81734, The Fuchs Case, *Request from the F.B.I to Interrogate Fuchs in Prison, March 1950*, National Archives, p. 1

⁵⁸ FO 371/81734, The Fuchs Case, *Request from the F.B.I to Interrogate Fuchs in Prison, March 1950*, National Archives, p. 1

⁵⁹ FO 371/81734, The Fuchs Case, Oliver Franks to Roger Makins, 31/3/50, National Archives, p. 2

⁶⁰ Sir Percy Sillitoe had worked in the British police force and founded the first British forensic science laboratory in 1929. He was knighted in 1942. Sillitoe became Director General of M.I.5 in 1946 and stayed until 1953 when he moved to Africa to work for the De Beers Company.

in political activities in this country.’⁶¹ The memo encouraged Attlee to mislead the nation over M.I.5’s mistakes. M.I.5 implied the police in Edinburgh and Birmingham, where Fuchs had previously worked, should have picked him out. They didn’t admit to acquiring Gestapo files in 1946, which would have revealed enough about Fuchs’ background to arouse suspicion. These files were not checked.

Michael Perrin interviewed Fuchs again on 22nd of March in jail to try to get a complete picture of the information which would now be in the hands of the Soviets. Fuchs had always displayed a co-operative attitude since his arrest and had tried to help the authorities to find others involved in espionage. However, he ‘strongly maintained his inability to remember in detail’⁶² the information he’d passed to the Soviets. Perrin suspected this could be because Fuchs ‘subconsciously, forced himself to forget his disloyalty.’⁶³ Fuchs estimated he only had ‘about a dozen meetings’⁶⁴ with his Russian contacts between 1942 and 1949. The diffusion information he gave was fairly complete but when probed about the possibility of a hydrogen bomb, Fuchs said he’d not provided much apart from general information. He had not been encouraging about prospects for a hydrogen bomb, saying it was ‘a very difficult weapon to make’⁶⁵ and had only implied that the uranium 235 bomb would be the initiating part of the weapon. He had described the role of initiators for fission weapons in detail.

⁶¹ Goodman, Michael, S and Pincher, Chapman (2005) ‘Research Note: Clement Attlee, Percy Sillitoe and the security aspects of the Fuchs Case’, *Contemporary British History*, 19;1, 67-77, p. 75

⁶² AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 22/3/50*, National Archives, p. 1

⁶³ AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 22/3/50*, National Archives, p. 1

⁶⁴ AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 22/3/50*, National Archives, p. 1

⁶⁵ AB 1/695, Michael W. Perrin Interviews with Dr. K Fuchs January to March 1950, *Interview of 22/3/50*, National Archives, p. 3

While the full scale of Russian espionage was being revealed, M.I.5 was scurrying around trying to defend itself. A book telling the story of the British spies was proposed by M.I.5 and this was to be written by a Mr. Alan Moorehead, public relations officer at the Ministry of Defence. This was obviously planned to be a government sponsored book, although the public weren't supposed to realise this. The book, according to M.I.5, was aimed to correct the impression of the Fuchs case created by 'biased American sources'⁶⁶ and Moorehead could do this by writing 'an objective and authoritative account'⁶⁷ of the story. The book was proposed to be quite short so it could be published quickly and reach a wide audience. It was known that the Americans had compiled a Congressional Document in regard to the British spies which had been highly critical of British Intelligence. Moorehead didn't want his book to appear a direct challenge to this document but one of its aims would be 'indirectly to correct the false impression created'⁶⁸ by the Americans. Moorehead's book was essentially a public relations exercise, designed to disguise the incompetence of the Security Services in neglecting to check the available files thoroughly. It may also have been written in a way that suggested the spies were geniuses who cleverly hid their crimes, making them almost impossible to track.

The Home Office was informed of the proposal and the Secretary of State, Sir Pierson Dixon, was horrified. He wished to pull the plug on the scheme because, rather than give the scandal more publicity the aim should have been 'to drive the Fuchs case into the background or rather to bury it as deep as possible.'⁶⁹ He added the most brilliant pen 'could not gloss over

⁶⁶ FO 371/93222, Anglo-US discussions on ways to combat atomic security leaks, *Memo to Secretary of State, Sir Pierson Dixon, 25/4/51*, National Archives, p. 1

⁶⁷ FO 371/93222, Anglo-US discussions on ways to combat atomic security leaks, *Memo to Secretary of State, Sir Pierson Dixon, 25/4/51*, National Archives, p. 1

⁶⁸ FO 371/93224, *Record of Meeting with Mr. Alan Moorehead, 16/7/51*, National Archives, p. 1

⁶⁹ FO 371/93222, Anglo-US discussions on ways to combat atomic security leaks, *Memo from Secretary of State, Sir Pierson Dixon, 27/4/51*, National Archives, p. 1

the fact that Fuchs betrayed a vital secret to the Russians⁷⁰ and the book was destined only to create bad press. This was a dose of common sense. Sir Pierson Dixon was probably aware that releasing a book would look like either a denial of American allegations of negligence or worse, an obvious cover up which would expose the British Intelligence service to the charge of being economical with the truth.

There are various estimates of the amount of time Fuchs saved the Soviets and most sources suggest one to two years. These estimates could be carried further and the Soviets may even have gained nearly three years. After all, most of the basic information on nuclear explosives had been published by 1941 and the Soviets had started a limited programme of research during the war. However, many design problems were so complex they would have taken a long time to solve without technical help and Fuchs knew nearly all of the implosion details. The information he passed on while at Los Alamos would have saved the Russians ‘a long period of research and development.’⁷¹ The first Soviet test resembled the Trinity device. This suggests Fuchs’ information was used as the frame of reference for Soviet scientists. America had done most of the difficult design work, which could then be copied with enough technical advice. The fact that Fuchs wasn’t aware of how to manufacture the components would not have been a problem as the Soviets had other sources of information. Fuchs was valuable because he had answers to a set of very specific theoretical problems of design, which the Russians couldn’t obtain from elsewhere. Strategically, Britain should have been more concerned with the ramifications of this case, given that Britain was especially vulnerable to atomic weapons due to its small area and high population density.

⁷⁰ FO 371/93222, Anglo-US discussions on ways to combat atomic security leaks, *Memo from Secretary of State, Sir Pierson Dixon, 27/4/51*, National Archives, p. 1

⁷¹ PREM 8/1279, Exposure of Dr. Klaus Fuchs: Correspondence with the Security Service, *Summary of Statement by Dr. K.E.J Fuchs on information passed to the U.S.S.R.*, National Archives, p. 1

It is true that the British Mission harmed the U.S as Fuchs and Alan Nunn May both passed on technical secrets. That said, once the Americans had proved an atomic bomb could be made, the Soviets were always bound to try to copy them. Moss has argued that ‘the most important secret of the atomic bomb during the war years was that it was being built, and this was a very simple one.’⁷² Fuchs should not be excused for his actions but he merely acted as a catalyst for an arms race that would have been inevitable in any case. The Americans need not have been overly fearful about Fuchs’ information on the hydrogen bomb as he only passed on ‘the general principles’⁷³ of this device. The British Mission to Los Alamos leaked information, but without the British Mission the atom bomb would not have been ready to use in combat during the Second World War. As for the Intelligence Services, they were guilty of negligence in not thoroughly checking specialists’ backgrounds before the Canadian spy ring was exposed. However, they could not be judged fairly on the British scientists’ conduct while they worked at Los Alamos as this should have been the remit of the F.B.I. who should not be above criticism for taking the Home Office’s advice about the trustworthiness of the scientists as gospel.

⁷² Moss, *N Men Who Play God*, London, Victor Gollancz, 1968, p. 62

⁷³ PREM 8/1279, Exposure of Dr. Klaus Fuchs: Correspondence with the Security Service, *Summary of Statement by Dr. K.E.J Fuchs on information passed to the U.S.S.R.*, National Archives, p. 2