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A partnership between countries that endures today
The British Mission was a part of the Lab from 1943-1945
By Angie Piccolo, archivist, National Security Research Center

After 27 months of grueling hours and scientific secrecy amidst the pressure of a mounting death toll and Nazi Germany's own weapons development, it had come to an end. It was time to celebrate.

On September 22, 1945, scientists, engineers and their families gathered at Fuller Lodge downtown to celebrate the success of the Los Alamos atomic bomb and the end of World War II.

The party was hosted by members of the British Mission and their wives and included food, dancing and a satirical play based on the lighter moments of wartime life in Los Alamos. However, this party was more than just entertainment and a night of festivities, it also represented a partnership between countries that endures today.

THE BRITISH MISSION

INVITES YOU TO A PARTY IN CELEBRATION OF

THE BIRTH OF THE ATOMIC ERA

FULLER LODGE

SATURDAY, 22ND SEPTEMBER, 1945

DANCING, ENTERTAINMENT,
PRECEDED BY SUPPER AT 8 P. M.

Mr & Mrs C. Critchfield

R.S.V.P. TO MRS. W. F. MOON
ROOM A-211 (EXTENSION 250)

Caption: An invitation to the British Mission Party hosted by members of the British Mission and their families is part of the collections of the Lab's National Security Research Center. The night included dancing, a satirical play and plenty of alcohol to celebrate the end of WWII and the successful partnership between the United States and the United Kingdom.
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Caption: To entertain the party guests, British scientist James Tuck wrote a play about what life was like in Los Alamos. This scene pokes fun at the government-imposed mail censorship on scientists and their families while living in the secret government city.
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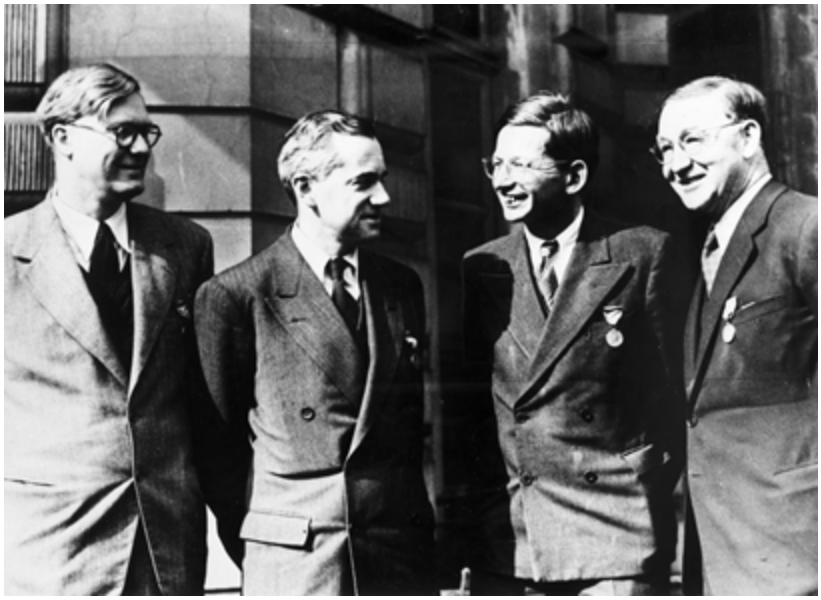
What was the British Mission?
The British Mission was a group of scientists made up of some of Europe's best experimental and theoretical physicists, as well as experts in electronics and explosives. They worked alongside American scientists on the Manhattan Project, the secret government project during WWII, to create an atomic bomb in a perceived race against Nazi Germany. This group of scientists included Nobel laureates James Chadwick and Neils Bohr; future Nobel laureate Joseph Rotblat; and Klaus Fuchs, later confirmed as a spy who provided Russia with secret nuclear information.

Were they all from Great Britain?
The British Mission consisted of 15 British nationals, including William Penney, Ernest Titterton and James Tuck. NSRC Historian **Alan Carr** explains in his article "Remembering the British Mission" that some members of the British Mission fled to Britain to escape Jewish persecution and the Nazi regime.These refugees included Neils Bohr and his son Aage from Denmark; Doris Davison from Russia; Otto Frisch from Austria; Klaus Fuchs and Rudolf Peierls from Germany; and Joseph Rotblat from Poland.



William Penney, Otto Frisch, Rudolph Peierls and John Cockcroft were four members of the British Mission that worked alongside American scientists and engineers on the Manhattan Project during World War II.
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Historic U.S.-U.K. Partnership
The science of atomic weapons began with the discovery of nuclear fission in Europe in 1939. British research related to the development of a nuclear bomb accerlated in 1940 after scientists Rudolf Peierls and Otto Frisch wrote a memorandum indicating the need for only a small amount of uranium to produce a weapon, according to Dennis C. Fakley in “The British Mission.”

Fakley’s article also explains that the memorandum was sent to Britain’s newly established MAUD Commiittee, which developed its own report confirming the feasibility of an atomic bomb by the end of 1943. These reports were shared with the United States, which at first was not as committed to nuclear research as the United Kingdom.

This all changed with Japan’s attack on Pearl Harbor in 1941 and the United States’ entrance into WWII. The U.S. began its own separate research and was less willing to share information with the U.K. because of concerns over what the British would do commercially after the war, according to the NSRC’s documentary “Trinity and the British Mission.”

The documentary explains how the U.S. quickly surpassed the U.K. in research given its vast amount of resources and the geographic advantage of being far from the battlefields. U.K. Prime Minister Winston Churchill signed the Quebec Agreement in 1943, which cemented Britain’s collaborative, albeit secondary, role in the research and development of atomic weapons with the United States. Members of the British Mission began arriving in the United States soon after.

What did the British Mission contribute to the Manhattan Project?

The British Mission made up a very small portion of the scientific community (only 19 individuals) at Los Alamos, but “their small numbers bely their importance to the mission of the wartime lab,” said NSRC Historian **Nic Lewis**.

According to Lewis, members of the British Mission “brought their expertise in several key areas, including explosives and hydrodynamics. James Tuck, for example, helped to develop the shaped explosive lenses for the implosion weapon and Rudolf Peierls used his experience with airborne blast waves to contribute to numerical solutions to hydrodynamic problems.”

Meanwhile, William Penney, the post-WWII leader of the British nuclear-weapons program, “calculated the height at which the atomic bombs should be dropped over Japan, and worked with (Los Alamos scientist) Luis Alvarez to predict the damage effects of the blast waves.”

Author Ferenc Szasz writes in his book *British Scientists and the Manhattan Project* that other members of the British Mission took on important positions at Los Alamos by leading various groups. This included Otto Frisch leading the Critical Assemblies group, Egon Bretscher leading the Super Experiments Group and George Placzeck taking charge of the Composite Weapons Group. Although James Chadwick remained in Washington, D.C., during the war, he contributed to the success of the Manhattan Project through his diplomatic efforts developing a strong bond with U.S. Army General Leslie Groves, head of the Manhattan Project, and maintaining good relations between the two nations.

After WWII officially ended on September 2, 1945, the Atomic Energy Commission, the civilian-controlled federal agency and precursor to the Department of Energy, took over operations at Los Alamos.

Classified information regarding nuclear weapons research and development was no longer shared with foreign countries, including Britain. As such, British Mission scientists were no longer even allowed access to their own reports. In Los Alamos, Everett Titterton was the last of the British Mission members to leave the Lab on April 12, 1947 and it wasn’t until the signing of the Mutual Defense Agreement in 1958, that the United States and the United Kingdom began sharing information again, according to Carr’s “Remembering the British Mission.”

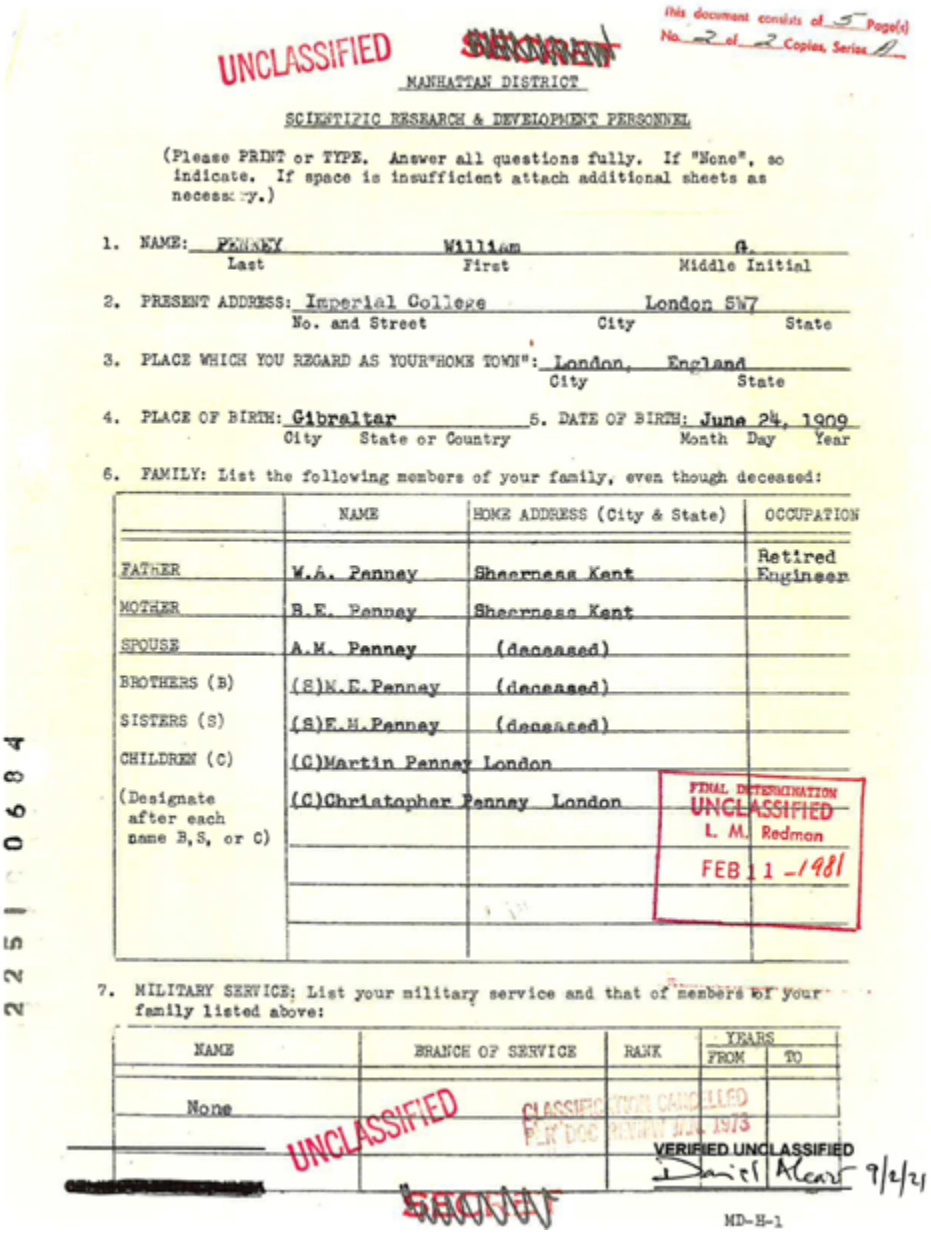
Where can I learn more?

The Lab’s National Security Research Center (NSRC) houses records and images documenting the scientists and engineers and their work on the Manhattan Project. The British Mission Reports Collection for example, includes documents, memos and research created by members of the British Mission. The collection highlights their findings on experiments, investigations and developments in nuclear science during the Manhattan Project.

NSRC Lead Archivist, Danny Alcazar, said this collection is significant because it not only covers British research during WWII, but also before the U.S. entry into the war. This unclassified collection demonstrates how their discoveries contributed to the Manhattan Project and the creation of the atomic bomb.

Special thanks to NSRC Archivist Sara Boteler for research assistance for this article.

Have questions? Need research assistance? Contact the National Security Research Center at nsrc@lanl.gov, or visit int-nsrc.lanl.gov.



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MANHATTAN DISTRICT

SCIENTIZIC RESEARCH & DEVELOPMENT PERSONNEL

(Please PRINT or TYPE. Answer all questions fully. If "None", so indicate. If space is insufficient attach additional sheets as necessary.)

1. NAME: PENNEY (Last) William (First) G. (Middle Initial)

2. PRESENT ADDRESS: Imperial College (No. and Street) London SW7 (City) (State)

3. PLACE WHICH YOU REGARD AS YOUR "HOME TOWN": London (City) England (State)

4. PLACE OF BIRTH: Gibraltar (City) (State or Country) 5. DATE OF BIRTH: June 24, 1909 (Month Day Year)

6. FAMILY: List the following members of your family, even though deceased:

	NAME	HOME ADDRESS (City & State)	OCCUPATION
FATHER	W.A. Penney	Sheerness Kent	Retired Engineer
MOTHER	B.E. Penney	Sheerness Kent	
SPOUSE	A.M. Penney	(deceased)	
BROTHERS (B)	(B)M.E.Penney	(deceased)	
SISTERS (S)	(S)E.H.Penney	(deceased)	
CHILDREN (C)	(C)Martin Penney	London	
(Designate after each name B,S, or C)	(C)Christopher Penney	London	

FINAL DETERMINATION
~~UNCLASSIFIED~~
L. M. Redman
FEB 11 1981

7. MILITARY SERVICE: List your military service and that of members of your family listed above:

NAME	BRANCH OF SERVICE	RANK	YEARS FROM	YEARS TO
None				

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VERIFIED UNCLASSIFIED Daniel Alcorn 9/4/21

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20. (Continue)

DETAILED DESCRIPTION OF WORK PERFORMED (Do not use code symbols. Use actual names of materials, processes, etc.)

Investigations concerning damaging effect of gadget. Effect of height of burst; effect of rain or fog, underwater use.

Consultant on air blast and earth shock at Trinity.

Member of target committee.

DATE June 28, 1945

Signature W G Penney

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Caption: The Manhattan District requested that leading scientists and engineers from the Manhattan Project fill out questionnaires prior to joining the Manhattan project. These forms, similar to this questionnaire from William Penney, included a question regarding a “detailed description of work performed” at Los Alamos. The records provide important details about the contributions made by members of the British Mission during WWII.

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