

Forensic science cracks the 'unsolvable' case of a World War I soldier's identity, enabling his re-burial

August 11 2024, by Jay Silverstein



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In the early hours of July 18, 1918, the Franco-American [counter-offensive](#) against German positions began at Aisne-Marne in northern

France. The first division of the American Expeditionary Force (AEF) drove the German forces back, but not without significant losses.

By the end of the assault, more than 1,000 US soldiers were unaccounted for—the fate of their mortal remains unknown. But 85 years later, French archaeologists conducting salvage work ahead of a construction job on what would have been the center of the battlefield encountered the remains of two American soldiers.

One of the two men, Private Francis Lupo, was easily identified because his name was embossed on his wallet, and he was laid to rest in Arlington National Cemetery with full military honors in 2006. But the other man proved more difficult. The remains of [Private 1st Class Charles McAllister](#) took two decades to be identified, but the young man will now finally be laid to rest with full military honors in his home town of Seattle. The burial will take place on August 21.

Back in 2004, both soldiers remains were taken to the US military's [central identification laboratory \(CIL\)](#) of the joint POW/MIA accounting command in Hawaii, where analysis of the evidence began. There is no UK equivalent of this US lab. The UK Ministry of Defense operates a small team called the joint casualty and compassionate center (JCCC) commemorations team, sometimes known as the "war detectives." Some ad hoc identification work is also carried out by UK universities.

Discovering the identity of the as yet unidentified remains of Charles McAllister—dubbed CIL 2004-101-I-02—was [deemed impossible at the time](#).

I was a forensic Archaeologist at the CIL when the remains arrived, and I conducted an analysis of the associated evidence. I concluded that there was a high likelihood that further research could lead to an identification

of I-02. The case was passed on to historians and other anthropologists with the organization, but no headway was made.

But some 14 years later, as we approached the 100-year anniversary of the death of this soldier and the end of the first world war, I reopened the case. However, much had changed politically with the agency in charge of MIAs and I was forced to work on it on my own time. Others volunteered to help as I went through all of the lines of evidence that could be used to establish this man's identity.

Several lines of evidence could be used to narrow down the possible casualties from the list of soldiers listed as missing in action (MIA) from the Aisne-Marne Battle: the date and location of his death, his possessions and his biological characteristics.

In an ideal world, there would be a database of the missing, and I could conduct a preliminary search based on his height, his dental pattern, his age and his ethnicity. Unfortunately, these data only reside within the individual military records stored in the US National Archives. This meant I needed to determine a short list of possible soldiers and request their records.

Long way round

To generate the short list, I first turned to the location and time of his death. I knew when Francis Lupo had gone missing and, since they were buried in the same unmarked grave, it was an easy assumption that they died at approximately the same time, July 21, 1918, and in about the same location.

Using military maps of the campaign, I overlaid the remains' recovery location on battle maps and correlated them with the movement of the advance of US forces. This gave me an estimate of which regiments

were in the vicinity, but this could only narrow the basic list to hundreds of MIAs.

The main clues were two buttons on his uniform, one stated "WA" and the other had a "2" and a "D" on it split between two crossed rifles. I discovered that this meant: I-02 had been a member of the Washington State [national guard](#), 2nd regiment, company D, before they were nationalized into the AEF.

There was also a medal awarded for the 1916 campaign against Mexico. As I began to dig into the records of the [Washington national guard](#), I found that they had served on the Mexican border and I discovered a list of those from the 2nd Regiment listed as MIA from France.

By cross-referencing the date range of losses with the losses recorded on the "Tablets of the Missing" at the [American battlefield's monuments at the Aisne-Marne cemetery](#) with the Washington national guard records, I was able to generate a shortlist of four men of Company D. It was then a matter of pulling together the military records of these four men from the national personnel records center (NPRC).

Once the records were in hand, biometrics (physical measurements from the body) could be used to confirm his identity. Only one individual matched the stature estimate of 63 inches (1.6m): Pfc Charles McAllister. Furthermore, his dental chart included extracted first and second molars on the left and right sides of his jaw with his wisdom teeth still intact, a rather unique pattern that matched Pfc McAllister. His estimated age also matched.

Using this information, I conducted genealogical work and found a family member from his matriline in Montana. Beverly Dillon knew the story of her great uncle well and she read me the last letter he wrote as he shipped out to France from New York. [Mitochondrial DNA](#) is useful

in identification. This is genetic material separate from the nuclear DNA. It is only inherited from the mother's side and resides in the mitochondria, "organelles" inside our cells. This DNA is passed down from mothers to their children. Beverly's mitochondrial DNA matched Pfc McAllister.

This gave me enough statistical data to show that it was impossible for the remains to belong to anyone else. Finally, a family member from the male line provided a nuclear Y-chromosome DNA sample. This is [genetic material](#) passed down from fathers to sons. The identification of CIL 2004-101-I-02 could no longer be denied, Pfc Charles McAllister could finally be laid to rest with military honors in his hometown, Seattle.

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Citation: Forensic science cracks the 'unsolvable' case of a World War I soldier's identity, enabling his re-burial (2024, August 11) retrieved 11 August 2024 from <https://phys.org/news/2024-08-forensic-science-unsolvable-case-world.html>

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