A Shoe Fetish

Among the most interesting artifacts found by TIGHAR on Nikumaroro is a shoe which appears to have been similar in many respects to the shoes Earhart was wearing when she disappeared. But is it Amelia’s shoe? This is Part One of a detailed review of what was found and what it may mean. Part Two will appear in March’s issue of TIGHAR Tracks.

During the Niku II Expedition in 1991, while excavating a small grave in the Aukaraimé district of Nikumaroro, the TIGHAR team accidentally happened upon the much-degraded remains of one shoe and the heel of another. An anecdotal account of bones being found on the island during the early years of its settlement also told of the discovery of women’s size nine American shoes, so the presence of shoe remnants near what we hoped was the grave in which the bones had been buried was of great interest.
Much later in TIGHAR’s investigation, documentation would come to light which would reveal that the anecdotes were rooted in fact, but at the time of the 1991 expedition it was all still rumor. That the grave turned out to contain the skeleton of a very small, possibly stillborn, infant did not add to our confidence that there was any truth to the tale.

Aukeraime South is the name given to the strip of land on the southern side of the atoll east of the small lagoon outlet known as Bauareke Passage. Originally covered with scrub and small trees, a portion of the area near the passage was cleared and planted to coconuts by the island’s settlers in 1941. Today the area is covered with a fairly dense mix of second and third generation coconut palms mixed with other trees. The stumps of some of the original cocos can still be found.

The photo above was taken at the grave site in 1991 as we were preparing to begin the excavation. The grave itself can be seen at far right. In the center of the photo is a small tree with gear piled on the ground in the shade at its base. A few days later, on October 16, 1991, during the excavation, Dr. Tommy Love (seen at the far left in this photo) was sitting under that tree changing his boots when a crab scuttled by. As Tommy watched, the crab knocked aside a leaf revealing a small black object on the ground. Tommy looked closer and called to expedition leader Ric Gillespie (in the white hat in this photo), “Hey! There’s an old shoe heel on the ground over here.”

We cordoned off an area around the heel and began to methodically remove all the organic material on the surface of the ground, being careful not to disturb any of the other shoe remnants which soon began to appear. These consisted of broken fragments of a rubber sole and a few scraps of leather. We also noted a small concentration of charcoal.

Once the area had been cleaned of all leaves and sticks and other surface detritus we photographed the artifacts in situ and mapped their distribution before collecting them.
The area was then swept thoroughly with a metal detector. By this method we found a small rusted metal disc about the size of a nickel and the tiny broken end of a shoe nail.

We also collected and screened the first three cm of soil. This process took two days but resulted in the discovery of a few more scraps of what appears to be leather and a small brass eyelet.

The artifacts were cataloged as follows:

Artifact 2-2-G-7/1, heel embossed “Cat’s Paw Rubber Co. USA.”
Artifact 2-2-G-7/2, section of rubber shoe sole from back of heel to just behind ball of foot.
Artifact 2-2-G-7/3, fragments of rubber shoe sole.
Artifact 2-2-G-7/4, fragments of rubber shoe sole.
Artifact 2-2-G-7/5, broken shoe nail.
Artifact 2-2-G-7/6, brass eyelet.
Artifact 2-2-G-7/7 metal disc.
Artifacts 2-2-G-7,8,9 scraps of leather.

Just outside the cordoned-off area, Frank Fournier, the LIFE magazine photographer accompanying the expedition, noticed a second shoe heel on the ground. This one bore no manufacturer’s label and was cataloged as:

Artifact 2-2-G-9

The area around the second heel was cordoned off and searched accordingly but nothing more was found.

The sole fragments were re-assembled into an approximation of their original form and measured as shown here. Obviously, without all of the pieces, the dimensions are only approximate.

The Cat’s Paw heel was examined and found to have the markings shown below molded into the structure and the handwritten letters “RN” on the inside of the heel.
The Cat's Paw company is now owned by the Biltrite Corporation of Waltham, Massachusetts. On January 30, 1992 the recovered shoe parts were sent to Biltrite where they were examined by experts at both the Waltham facility and the company's factory in Ripley, Michigan. Photos of Earhart wearing the shoes she was wearing on the Lae/Howland flight were also examined by Biltrite.

The cover letter expressed their opinion that the heel mold dated from the thirties. They were not able to be more precise than that. The report that followed the letter described the artifacts carefully and then drew conclusions from the visible features of each piece.

2 depressions between nail holes 2 - 3 & 3 - 4; This is where traction plugs were. Small dot or hole in center was pin to hold white plugs.

This could be for a large size Women's shoe or used on Men's shoes.

Of the second heel, the report concluded:

This heel could have been from another pair of shoes.

And of the eyelet:

Small; appears to be Women's Hole not big enough for Men's lace which would have been woven cotton in 1937.

The section of the report dealing with the large portion of sole describes the stitching holes as very close together and fine. In telephone conversations, documented in notes taken at the time by Richard Gillespie, Foshage and Ogintz also expressed their opinion that the “fine and close” stitching marks on the recovered sole were indicative of a woman's shoe.
BiltRite identified the shoe Earhart was wearing in the photo as a “blucher oxford.”

An “oxford” is any lace-up shoe.

The term “blucher” refers to a shoe style in which a portion of the “upper” (the part of the shoe above the sole) laps over the “vamp” (the part covering the instep and toe).

Illustrations from Webster’s Second International Unabridged Dictionary.

Further Discoveries

During the Niku III expedition in 1997, another more intensive search was made of the entire site using close visual inspection, and White’s Electronics pulse induction metal detectors. An electromagnetic survey of the site was also made using a Geonics EM-38 ground conductivity meter. Two artifacts were found.

Artifact 2-4-A-2 was a small rusted washer, but we are not completely sure we did not ourselves deposit it during previous searches.

Artifact 2-4-A-3 was a partially burned paper label recovered from a concentration of ash and charcoal found within 5 cm of the surface where the charcoal pieces had been found in 1991.

Analysis of the label later revealed the presence of a bar code thus dating the label and the fire that burned it to not earlier than the 1970s.

Coming in March...

… Part Two of Shoe Fetish, where we’ll tackle the complex problem of comparing what was found to what we can determine about the shoes that Amelia wore.