Description of an Unusual Decorative Inlay Technique from the Late Eastern Zhou period

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Introduction:
This lavishly decorated belt hook (ROM 931.13.80), in the Far Eastern Collection of the Royal Ontario Museum, was reportedly from Tomb “A” of the Jincun burials, old Loyang capital, Honan. The belt hook is dated to the Late Eastern Zhou period, 4th - 3rd Century BCE.

Description:
The belt hook is finely crafted of gilt copper alloy (bronze), covered with inlaid turquoise and a form of filigree (silver wire) forming cloisons along the body. The animal head finial is covered in gold foil with bead eyes. Radiography suggests that the finial may have been added onto the bronze body, but further investigation is required to confirm this. Inset around the turquoise and cloisons are areas representative of repoussé.

Analysis:
One wire was extracted from the side of the belt hook for metallographic and chemical analysis. The wire is ~250µm in diameter. It was manufactured by hammering down on a strip, mushrooming out the top and bottom prior to folding the edges in to create a rounded wire. SEM micrographs show this method well. Chemically, the wire is composed of almost pure silver with ~ 1-2 wt% copper. Elemental mapping revealed a relatively uniform composition with some higher copper concentrations likely due to solid state precipitation.

Conclusion:
Early Chinese ‘wire’ was typically fabricated by rolling sheet or foil, creating a void in the centre. The use of miniature solid wire rods used in this fashion is unusual and certainly, rods arranged and packed vertically filling cloisons is a technique that has not previously been described in the literature making this example unique.

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