

## 1141 寒天寺

Conservation of gilt bronze locks (Treasure No. 1141)  
excavated from Hancheonsa temple

高亨淳 · 俞在恩 · 李在城

Hyeong Sun Go, Jae Eun Yu and Jae Sung Lee

### ABSTRACT

Gilt bronze locks(Treasure No. 1141) excavated from Hancheonsa temple are artifacts of Goryeo Dynasty. The locks underwent a conservation process from October 2001 to July 2002. The process included cleaning and the application of corrosion inhibitors, Benzotriazole solution, as well as reinforcement treatment with Paraloid NAD-10 solution, an acrylic resin. Non-destructive XRF analysis unveil that the artifacts are made of an alloy of copper(Cu), tin(Sn) and lead(Pb), but the gilt layer is too thin to analyze the purity of the gold or the exact production method.

Gilt bronze locks are important materials because they preserve all the structures of locks in Goryeo Dynasty to the smallest detail. The surface pattern is revealed through the conservation process and components of the alloy through material analysis.

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1989 1 15

1992 7 28

1141

2001 10

2002 7

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( 30.2cm, 12.6cm)

2) -2

가 . ( 17.5cm, 4.4cm)

3) -3

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가

. ( 18.3cm, 4.3cm)

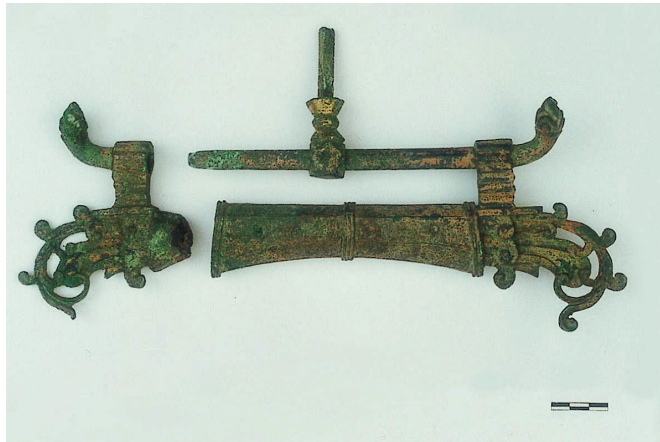
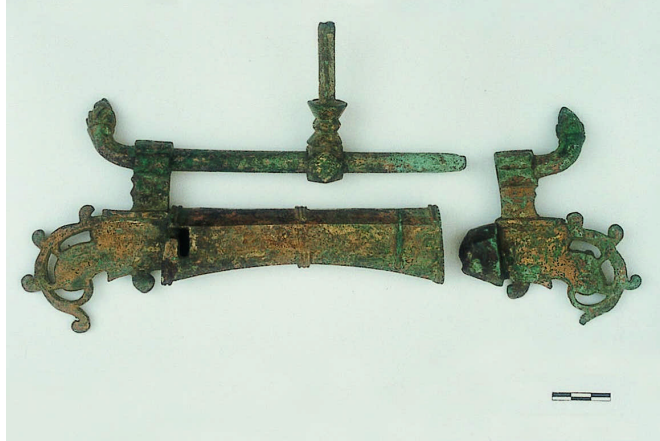


Photo 1.

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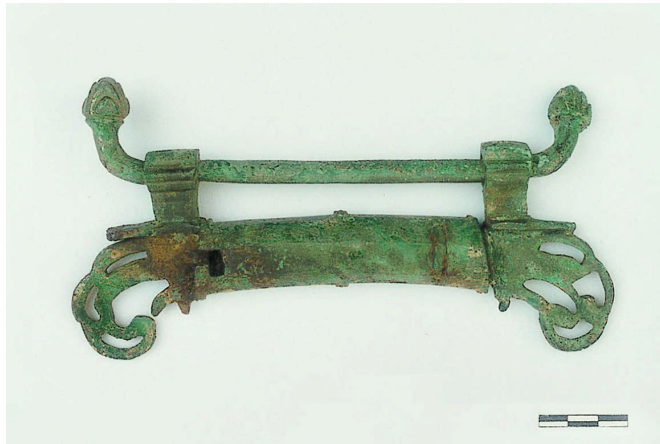
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-2 Photo 3.  
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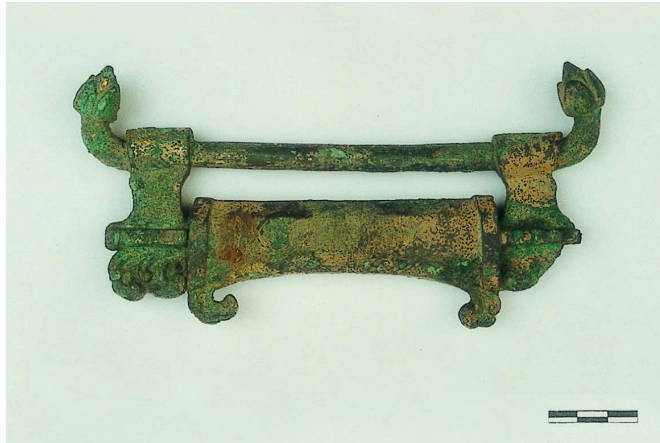


Photo 5.

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Photo 6.

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2.

1) Cleaning

Ethyl Alcohol

1:1

. Cleaning

Ethyl Alcohol

2)

Ethyl Alcohol 3% Benzotriazole

Ethyl Alcohol 90  
10

3)

30%

Paraloid NAD-10

가 가 30% 2

3.

1)

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(鎖金), (鎖湛)

‘V’

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1).

1) . . . , 2002, 「 ( )- -」, 35, pp. 4~5.  
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花紋 小形圓紋

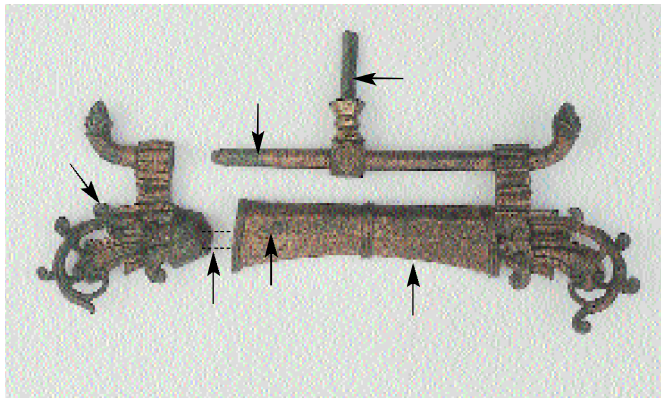


Photo 7.

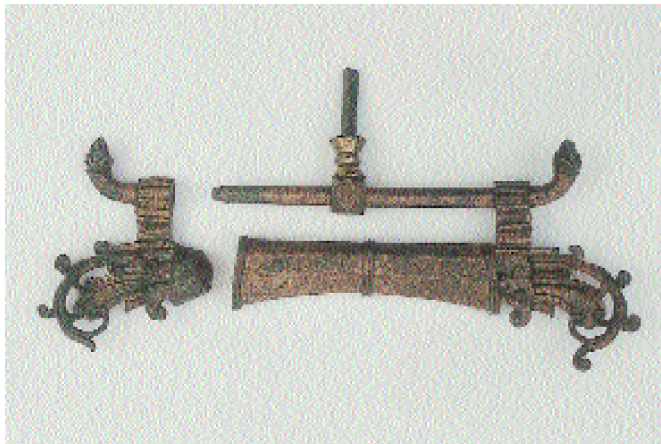
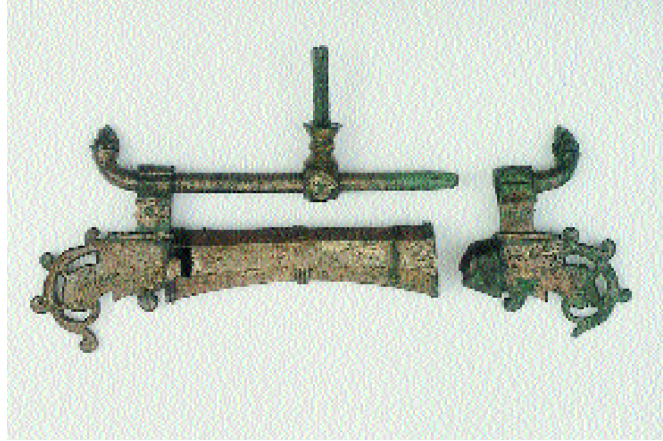


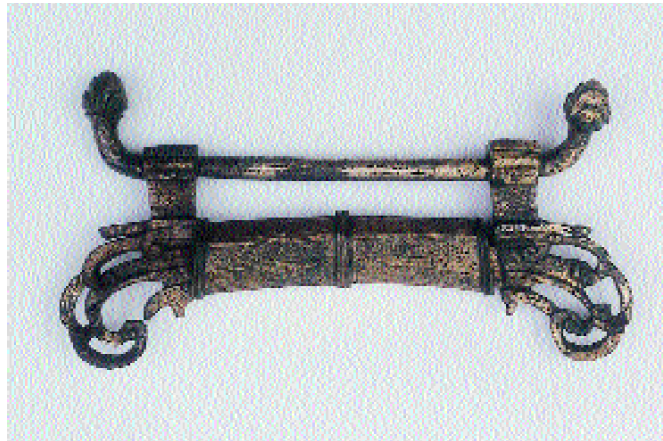
Photo 8.

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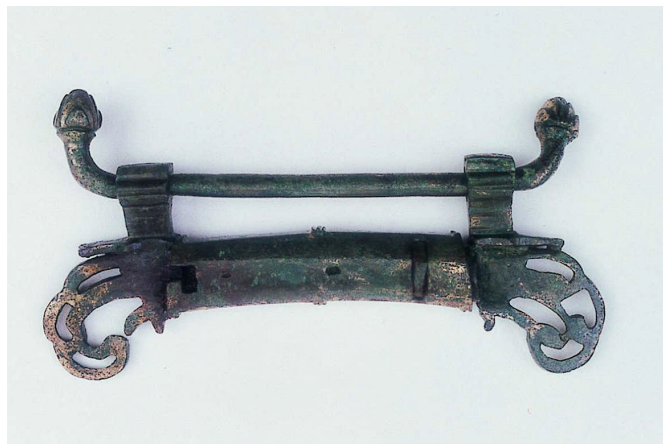
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-1 Photo 9.  
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-2 Photo 10.  
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-2 Photo 11.  
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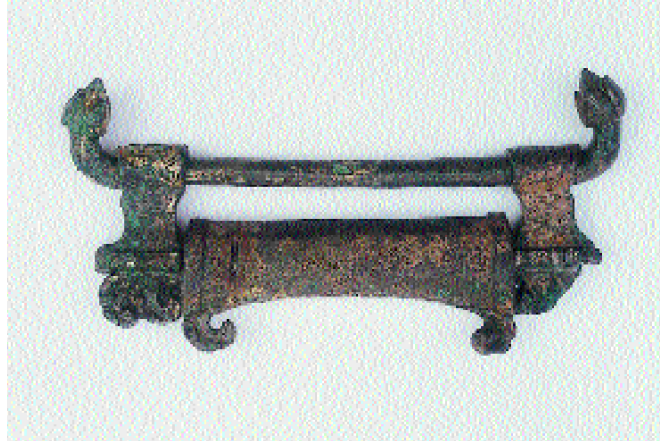


Photo 12.

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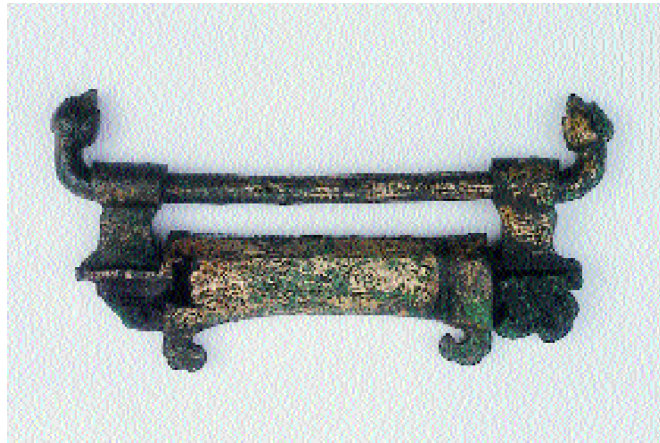


Photo 13.

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XRF(Portable XRF, SEA 200 Field-X, Seiko Instrment Inc.)

.2)

50KV, 200μA

60Sec,

2)

1 Cu가  
Au 가  
Pb, Sn Fe 가 2  
1 Fe Pb가 Au  
. 3  
Au  
Fe, Pb가 . 4  
Fe, Sn, Pb  
Au 가  
Cu Sn, Pb 가  
X-

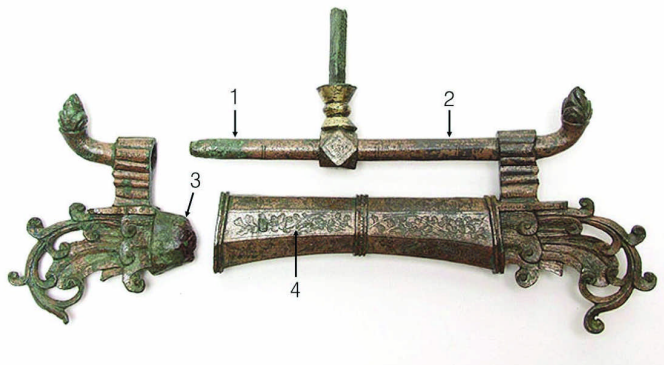


Photo 14.

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Table 1. \* : cps

	Fe	Cu	Sn	Au	Pb	
No. 1	56.9	1892.3	29.9	193.9	69.5	
No. 2	136.6	814.9	56.5	96.7	90.7	
No. 3	93.8	1844.9	49.5	39.7	137.4	
No. 4	60.7	1388.9	31.9	221.9	70.6	

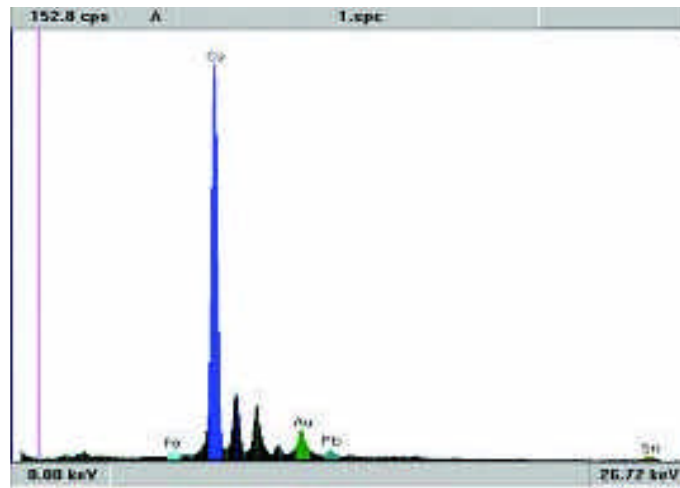


Fig. 1.  
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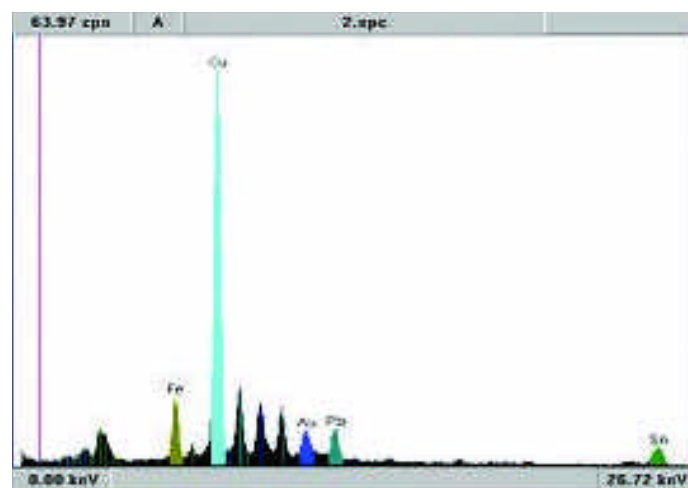


Fig. 2.  
(No. 2)

Fig. 3.  
(No. 3)

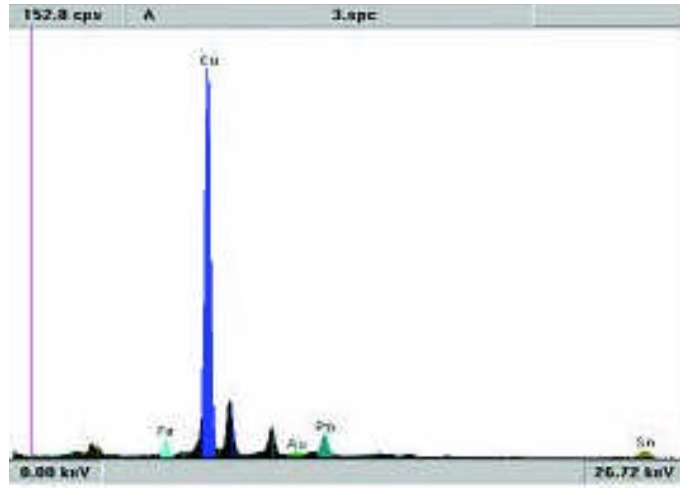
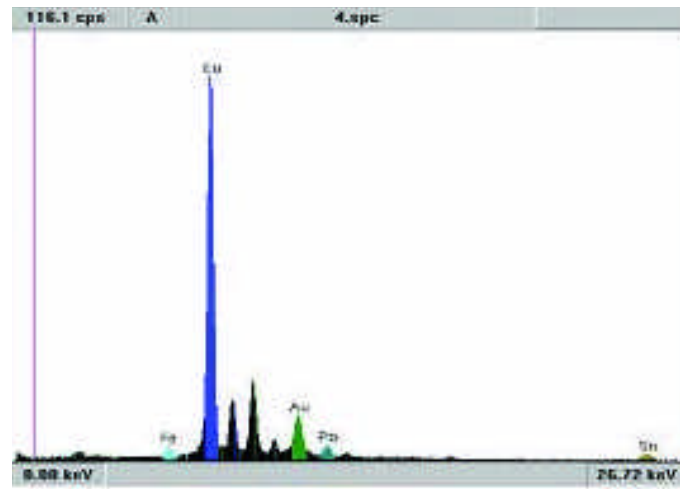


Fig.4.  
(No. 4)



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