

The grant program of the Sumitomo Foundation

# Revival over 2000 Years

: Restoration of the Lacquerware  
Gifted to Xiongnu by the Han



## Preface

I am very pleased to be provided with an opportunity to display lacquerware that is 2000 years old. The “revival” of this lacquerware in the modern age is a result of the following: the inquiring spirit of Japanese researchers, the diligent working and careful techniques of restorers, and the great support provided by well-meaning persons and organizations. I would like to say that this is truly a miracle.

The lacquerware manufactured by the Han were luxury goods favored by the royalty and nobility. The Xiongnu, who united nomadic peoples and established the Xiongnu empire, was one of them. The grave goods of the Xiongnu prove that the royalty and nobility of the Xiongnu empire also favored lacquerware.

In Mongolia, broken lacquer fragments were unearthed from tomb 20 of Gol Mod-I. This site is an elite tomb of the Xiongnu in the Arkhangai province. Further, a lacquered ear-cup was unearthed from the small tomb of Chandman’ khar uul in the Dornogovi province. Although these two objects had been greatly damaged, the importance of these materials for the study of the relationship between the Xiongnu empire and the Han was clear. Moreover, both objects had a Chinese inscription on them, which was the key to “solving many important questions” regarding ancient history.

Unfortunately, there are no laboratories or people with adequate experience to ensure the restoration of lacquerware in Mongolia. Thus, the condition of these important objects is worsening year after year.

I thank all the people concerned with this project, especially, Ikue OTANI — organizer of this project, Fumio OKADA — adviser for the restoration, specialists of the Yoshida Biological Institute, Sumitomo Foundation — provided financial support for this project, and Sen-oku Hakukokan Museum — carried out a special exhibition in Japan. I wish for further developments in academic exchanges and friendship.

Institute of Archaeology, Mongolian Academy of Sciences

Director, ph. D

Gelegdorj EREGZEN



## About this project

In the steppe area further north of the Great Wall, the Xiongnu strengthened their power and founded the empire that lasted from the end of the 3rd BCE to the 2nd CE. According to the Han's historical records, namely "*Records of the Grand Historian: Shi Ji* 史記" and "*History of the Former Han, Han Shu* 漢書" the power of the Xiongnu surpassed that of the Han. The archaeological remains of the Xiongnu are spread across Mongolia, the Russian Federation, and China, and the number of tombs belonging to the Xiongnu is known to have reached 7000. The greatest number of the Xiongnu's remains exist in Mongolia, accounting for almost 5000 tombs. After the 2000s, many joint expeditions were organized in Mongolia, and the excavation of large-scale tombs was intensively undertaken. A large-scale tomb, probably that of a master, an elite of the Xiongnu, who had been buried with many luxury goods, contained the following: Roman glass bowls or silver phalerae brought through the Silk Road, many kinds of silk fabrics or lacquerware from the Han, carpets with nomadic animal motif appliques, etc. These excavation results surprised us, providing new information for the study of the Xiongnu.

The lacquerware we restored also happens to be one of the precious grave goods from Xiongnu tombs. They were the highest-grade lacquerware made for the emperor of the Han. Lacquerware artifacts are difficult to conserve. This is because when we found it in excavations, it is already crushed by the earth presser, or the base made of organic materials is already weakened or rotted.

The Institute of Archaeology MAS and the project members for this restoration received a grant from the Sumitomo Foundation, Japan. They accomplished conservation and restoration. We would like many people to see this "revived" lacquerware that are more than 2000 years old.

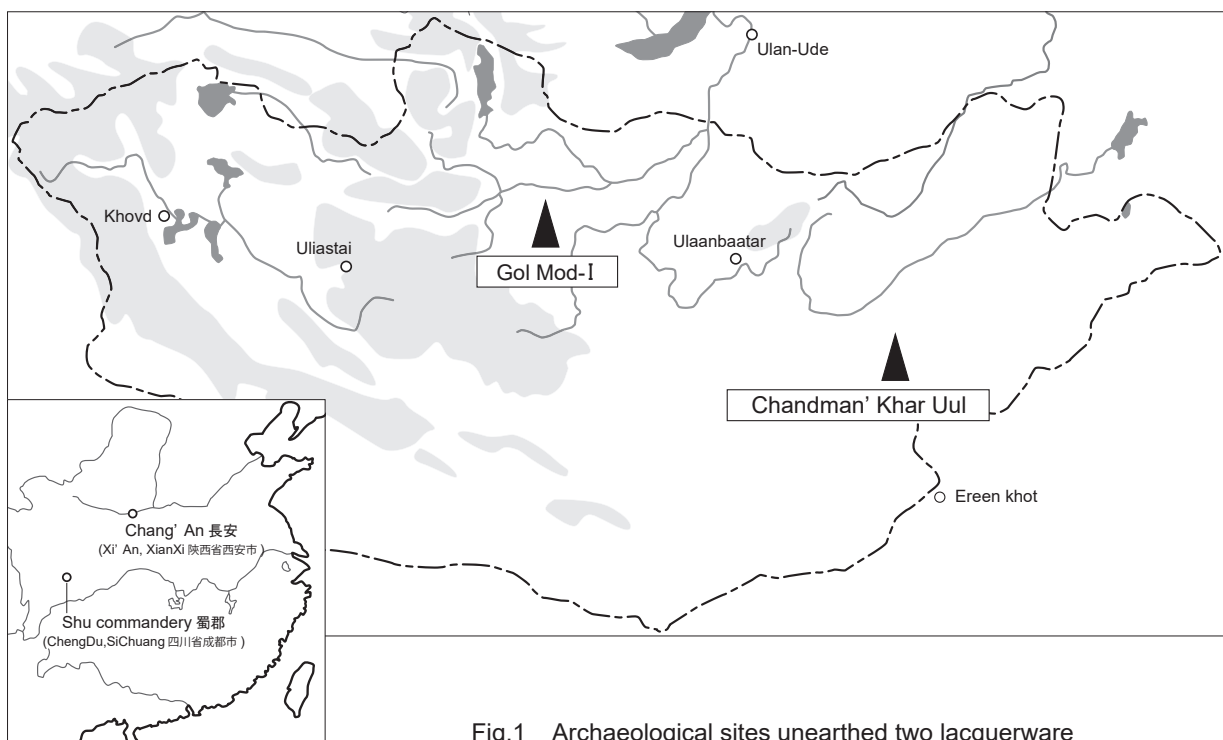
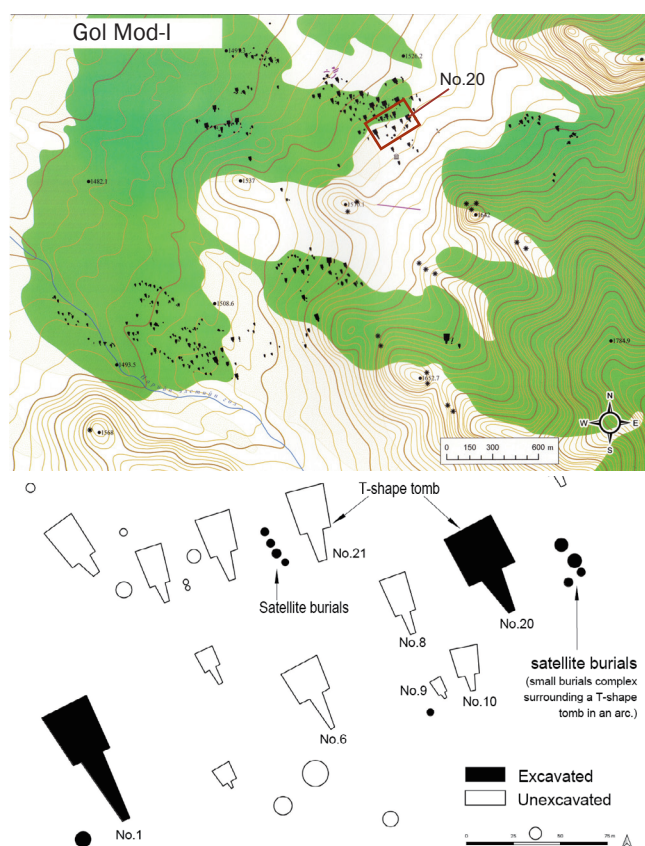


Fig.1 Archaeological sites unearthed two lacquerware



## Excavation at Gol Mod-I

Gol Mod-I site is one of the representative Xiongnu cemeteries. It is located 35km southeast from the center of Khairkhan sum, Arkhangai aimag. There are over 480 tombs, including both elite and commoner tombs. Ts. Dorjsuren, the Mongolian archaeologist, discovered the site in 1956. He excavated an elite tomb (№1) and its 26 satellite burials. After this excavation, the Mongolian-French joint archaeological expedition carried out excavations from 2000 to 2010. This group excavated three elite tombs and 15 satellite burials. The three elite tombs are tombs №1, №20, and №79; the lacquer *Xuan-tray* that we restored was unearthed from tomb №20.



Distribution of tombs at Gol mod-I site



Inside the outer chamber (tomb No.20)



Mongolian-French joint archaeological expedition



Distant views of Gol Mod-I site



## Excavation at Chandman' Khar Uul

Chandman' Khar Uul site is a burial complex that composed tombs from different times, from the Bronze Age to the medieval period. This site is located in Delgerekh sum, Dornogovi aimag. The excavation team of the Institute of Archaeology, Mongolian Academy of Sciences conducted field works six times from 2003 to 2013, during which they excavated 292 out of the 320 registered remains. The 15 tombs excavated were Xiongnu tombs, and all of them were commoner tombs. They consist of a rectangular-grave pit approximately two meters in length and have a round-shaped stone pile on it. The commoner tombs have minimal grave goods, though the master of tomb №7 had been buried with a beautiful ear-cup with an inscription.



Tomb No.7

(L: Pile stones on the grave pit, R: Grave pit)



Grave pit of tomb No.7



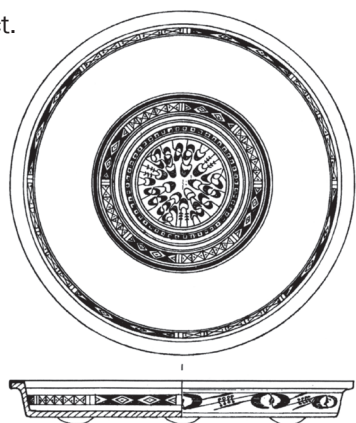
Distant views of tombs at Chandman' Khar Uul site

## Two lacquerware objects: Ear cup and *Xuan*-tray

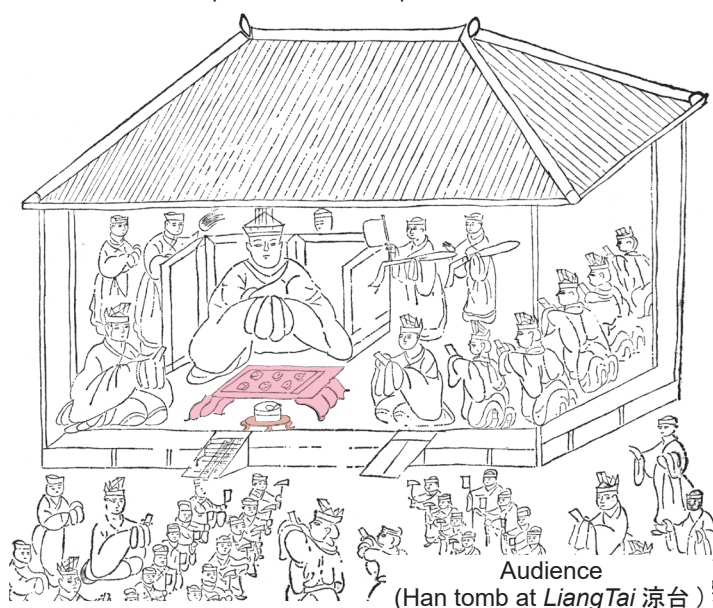
In this project, we restored two lacquerware objects: an ear-cup from tomb № 7 of Chandman' Khar Uul and a *Xuan*-tray from tomb 20 of Gol Mod-I. Both wares have a Chinese inscription on the surface, namely “*ChengYu* 乘輿”. This means that these lacquerware objects were made for the use of the Han emperor. It is a mere coincidence that both the lacquerware objects were made during the same period: the first year of the *YongShi* 永始 era (16 BCE). Thus, it is clear that both the lacquerware objects were made for the former Han emperor *Cheng* 成帝 (32 BCE-7 BCE). Although both the lacquerware were made in the same year, the production workshops are different. While the ear-cup was made at the west workshop of the *Shu* 蜀 Commandery, which existed in Modern *ChengDu* 成都, the *Xuan*-tray was made at *GongGong* 供工, which was one of the central workshops in the capital of the former Han, *Chang'An* 長安 (Fig. 1). The inscription describes the information regarding this ware in detail: production year, kind of ware, size, workshop, the names of the craftsmen charged with each of the processes, and inspectors. This was meant to clarify responsibility (thus, if the product did not match the facts stated in the inscription, the craftsmen or inspectors were punished).

Both of the lacquerware objects were tableware. The ear-cup was an oval cup with two handles like ears. This was a cup meant for drinking an alcoholic drink or soup. The *Xuan*-tray had three short legs under the shallow tray parts, and was the base for the *Zun* 尊-round container (alcoholic drink or soup was served from a *Zun*-container into ear-cups.)

The *Xuan*-tray from the Gol Mod-I site had broken, but we can see the complete shape of it in the grave goods of the Han tomb at *YaoZiLing* 鷄子嶺. The motif on its outside resembles that of the *Xuan*-tray of the Gol Mod-I's one. The *Xuan*-tray of Gol Mod-I would have been shaped like this object.



*Xuan*-tray (Tomb №6, *YaoZiLing* 鷄子嶺)



Ear cups and dishes on the personal dining tray with four legs  
(Restoration display: Tomb №9, *SeoGam-ri* 石巖里)



# 1. Ear cup

【Translation of the inscription】 In the first year of the *YongShi* era (16 BCE), the Western workshop of *Shu* 蜀 commandery made this cup for the emperor's use. This object is an ear-cup, having a capacity of 1 *sheng* 升 16 *yue* 籩 (232ml). The cup has a wooden base, the surface has drawings, and the ear parts are covered with gilded bronze plates. The following individuals were responsible for the manufacturing and inspection of this object: *SuGong* 素工 craftsman, whose name is *Zong* 宗, made the wooden base; *XiuGong* 髹工 craftsman *Bao* 褒—lacquered the undercoat; *ShangGong* 上工 craftsman *Pou* 褒—had applied the last lacquer coat; *TongErHuangTuGong* 銅耳黃塗工 craftsman—[name] decorated the ear parts with gilded bronze plates; *HuaGong* 畫工 craftsman—*Zu* 卒 drew on the surface; *MaoGong* 涓工 craftsman who brings out the luster is —lost—. The director was *Xiao* 孝, the assistant director was (畧: This is an unidentified character to the Modern Chinese, but it is his name.), the executive officer was *Tan* 譚, and the provisional head secretary was *Tong* 通.

【Bottom】 The three characters written at the bottom form an auspicious word.





## 2. Xuan-tray

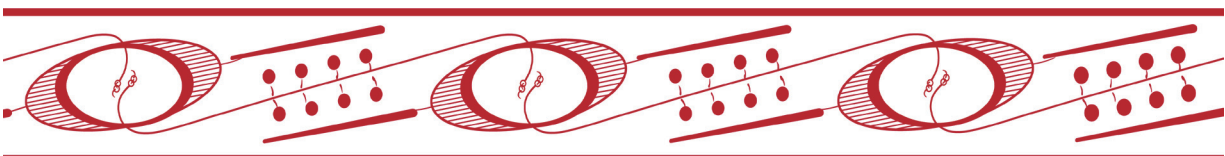
【Translation】 This object is a *Xuan* 旋 round tray: At the base of this model is piled ramie fabrics, and the rim of this ware is encased by gilded bronze. The tray is 1 *chi* 尺 5 *cun* 寸 (diameter: 34.5cm). Craftsman *Wu* 武 of *GongGong* 供工 workshop made this object in the first year of the *YongShi* 永始 era, 16 BCE. The supervisor is the following individuals: The Inspector *Hu* 護 is your servant *Jing* 敬 ; —lost—; the Assistant Clerk *Yuan* 掾 is your servant *Chang* 昌 . And the inspector is the following two: The Deputy Director of the Right *YouCheng* 右丞 is your servant [name], and the Provisional Director *ShouLing* 守令 is your servant *Bing* 並 .

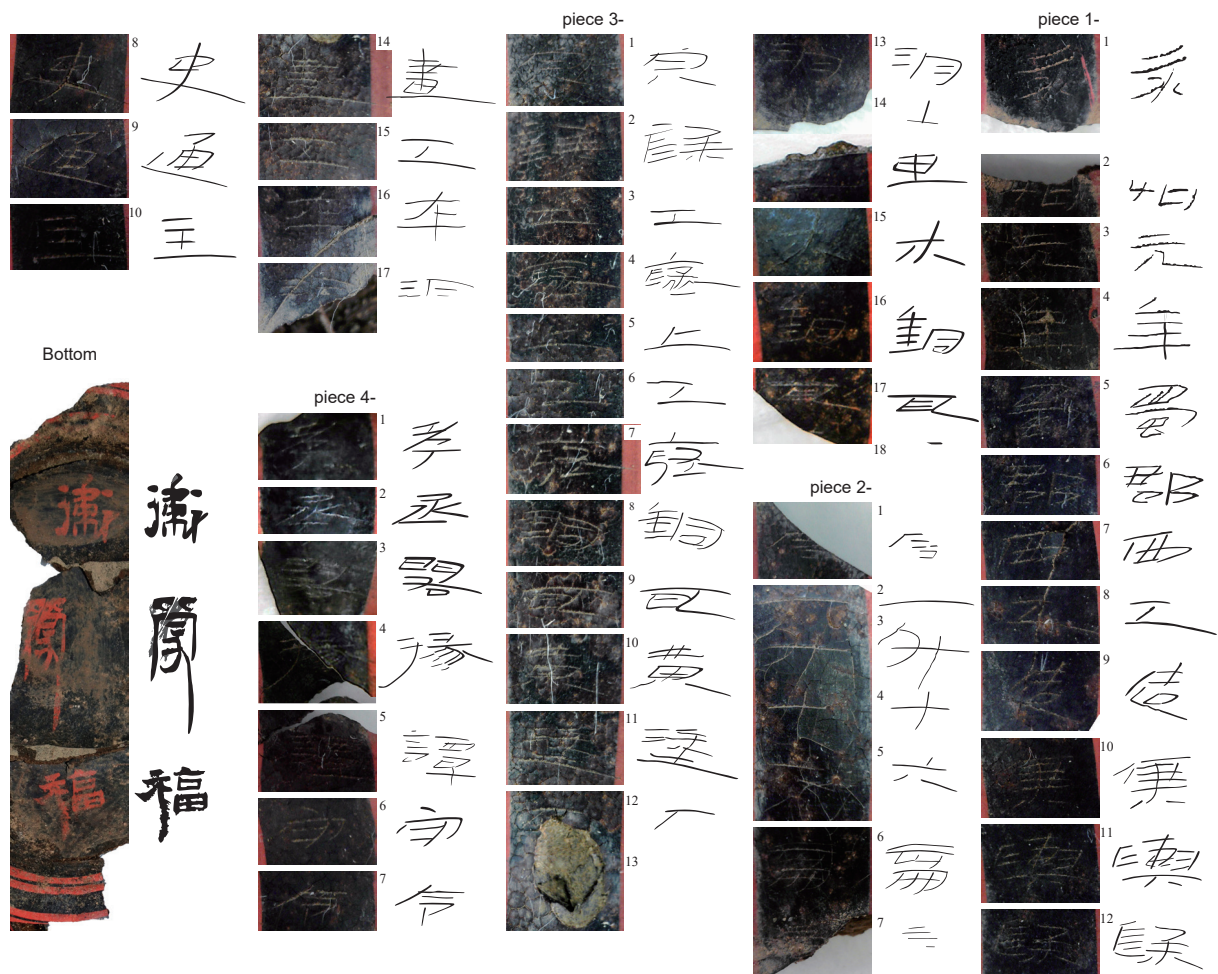


*Xuan-tray*

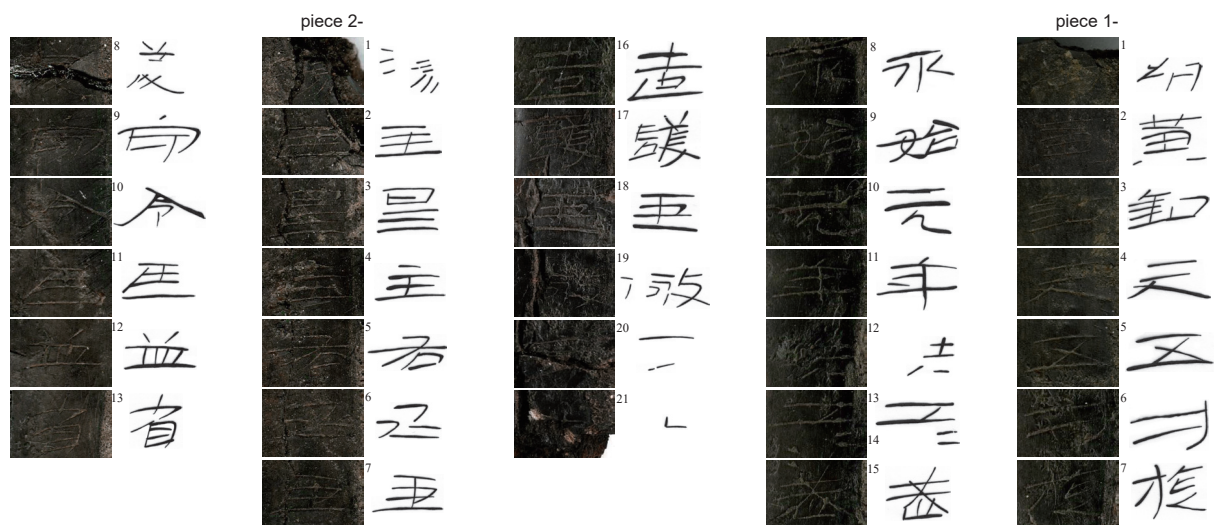


Fragment with a Chinese inscription





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永	始	元	年	蜀	郡	西	工	造	乘	興	繆	涓	畫	木	銅	耳	黃	塗	梔	容	一	升	十	六	會	素	工	宗	繆	工	
4	5	6	7	8	9	10	11	12	13	14	15	16	17	lack			4-1	2	3	4	5	6	7	8	9	10	Bottom				
bao	shang	gong	pou	tong	er	huang	tu	gong	-	hua	gong	zu	mao	...			chang	xiao	cheng	?	yu	tan	shou	ling	shi	tong	zhu	wei	meng	fu	
褒	上	工	哀	銅	耳	黃	塗	工	口	畫	工	卒	涓				長	孝	丞	碧	掾	譚	守	令	史	通	主	衛	蒙	福	



lack	1-1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	lack	2-1	2	3	4	5	6	7	8	
...	zhu	huang	kou	chi	shu	cun	xuan	yong	shi	yuan	nian	gong	gong	(gong)	wu	zao	hu	chen	jing	-	-	...	yuan	jun	chang	zhu	you	cheng	chen	-	
	紬	黃	鈎	尺	五	寸	旋	永	始	元	年	供	工	二	武	造	護	臣	[敬]	□	□		掾	臣	[昌]	主	右	丞	臣	□	
9	10	11	12	13	1-14: Repetition mark referring to the previous character.																										
<div>□ : Unidentified Chinese character.      [ ] : Presumption</div> <div>■ : lack of character(s). (When it is possible to presume the character(s), the presumption is written in it.)</div>																															
shou	ling	chen	bing	sheng																											
守	令	臣	並	省																											



## Restoration process



1. The freight packed objects arrived in Kyoto from Mongolia.



Ear-cup: the condition after excavation.



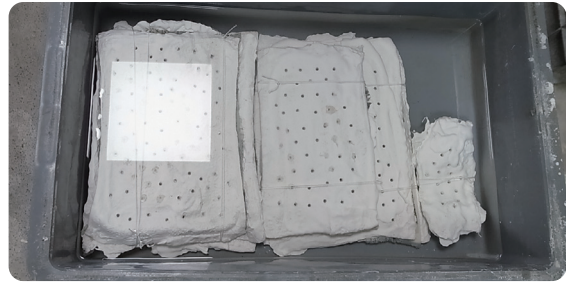
2. The condition was checked and the repair discussed.



Xuan-tray: soaking in water (in process 3).



3. The lacquer fragment was soaked in water. In water, the lacquer fragment was free, the warp was removed off it. Furthermore, the dirt (mud) was removed by ultrasonic cleaning.



4. The water was replaced with higher alcohol and the lacquer fragments were strengthened. (The white frame is gypsum, used for preventing a lot of transformation.)



5. The Chinese inscription was read and the form reconstructed.



6. The fragments were united and resin was filled in the gap.



7. The resin was colored.



Ear-cup: base for the display.


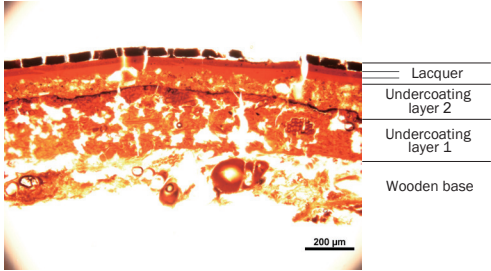
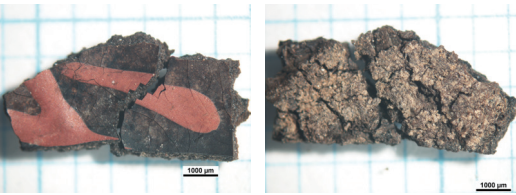
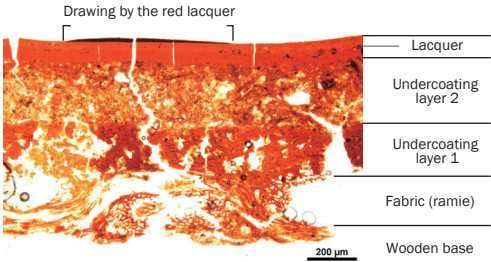
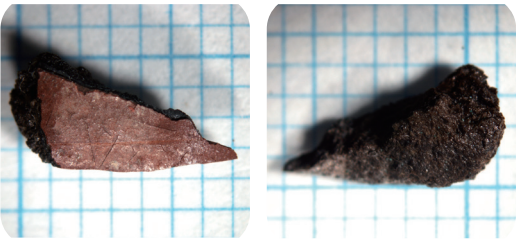
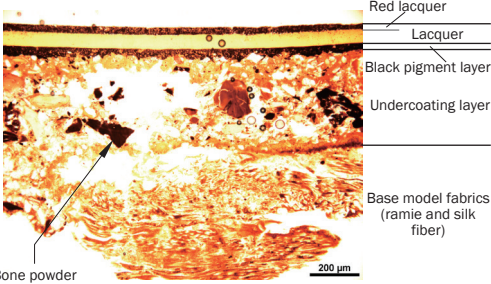
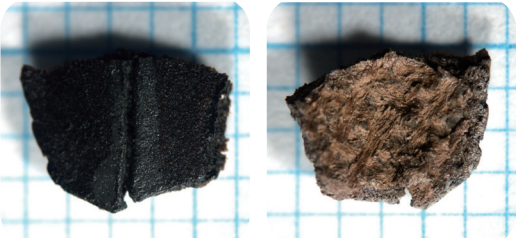
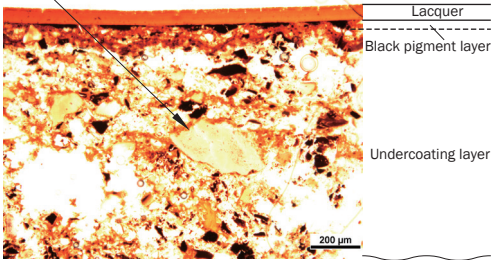


# Microscope Observation to Know the Lacquer Technique

We made some slides from a tiny flake of lacquer fragments (picture provided in the below table). When we made a cross-section of the lacquerware, we could observe the construction of these ware using a microscope. Thus, we could confirm that the information written in the Chinese inscription was true: the ear cup is a wooden base and the *Xuan*-tray has piled ramie clothes, *JiaZhu* 夾紵, as the base. And we had able to observe the production process from this slide: craftsman plastered the undercoat on the base at first, and then lacquered on it several times.



The texture of ramie fabric under the lacquer film (ear-cup)

Sample		Photo of the microscope slide	
Ear cup	Inside of the cup		
	Ear of the cup (=Outside of the cup)		
<i>Xuan</i> -tray	Inside of the tray (A part lacquered red)		
	Outside of the tray		

The organizer of the project:

Mongolian side:

EREGZEN Gelegdorj (Institute of Archaeology, Mongolian Academy of Sciences)

ISHTSEREN Lochin (Institute of Archaeology, Mongolian Academy of Sciences)

Japanese side:

OTANI Ikue (Kyoto University)

OKADA Fumio (Kyoto University of the Arts)

Conservation:

YOSHIDA BIOLOGICAL LABORATORY

Grant-in-Aid:

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Exhibition (2022.3.26~5.15):

SEN-OKU HAKUKOKAN MUSEUM

HIROKAWA Mamoru

Pamphlet for exhibition:

Writing and design: OTANI Ikue

Photo for exhibition: FUKAI Jun

Photo of the microscope slides: OKADA Fumio

Cooperation: AMARTUVSHIN Chunag, GANTULGA Jamiyan-Ombo, YERUUL-ERDENE Chimiddorj



京都大学  
KYOTO UNIVERSITY



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