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Urushi in Japanese Culture (3)

Preservation of *Urushi* Artifacts

By Kazumi MUROSE

Restoration of *Urushi*-ware

It has been demonstrated by many *urushi* artifacts created in the past that *urushi* is an extraordinarily long-lasting coating material that could endure more than 1,000 years if good environmental conditions for its preservation are in place. However, it slowly deteriorates due to the effect of ultraviolet rays, among others. Simply speaking, it gradually ages like the skin of humans.

Thus, work is carried out on those *urushi* artifacts that have been in existence for ages to keep them in better condition to be handed down to future generations. The preservation and restoration of *urushi* craftwork are just as important as making new products.

Photo: author

A scene of restoration work on urushi craftwork of lobed food coffer possessed by Ocean Exposition Commemorative Park Management Foundation

The preservation and restoration of *urushi* craftwork particularly differ greatly from those of sculptures, drawings and paintings as the work involves complicated processes such as the making of a *kiji* wooden base, *shitaji* preparatory work, *nuri* coating and *kashoku* added decorations to *urushi*. It is closely related to production technology. Therefore, it becomes indispensable for those engaging in preserving and restoring *urushi* artifacts to master the skill of manufacturing *urushi*-ware. Work concerning the restoration of *urushi* craftwork in Japan is broadly divided into three technological phases according to purposes.

a. First is the rehabilitation of such *urushi* craftwork as tableware in daily use. It concerns a method of applying *shitaji* preparatory work to bring the damaged part back into shape and giving it *uwanuri* final coating for its neat look as newly refurbished lacquerware. The purpose of this method is to restore damaged *urushi* articles for use again as tableware. It cannot be denied that rehabilitated tableware will lose their past even though they may retain strength.

b. Second is the restoration of damaged *urushi* coating and patterns in a way as inconspicuous as possible to reestablish their original condition. This method has been applied to many *urushi* artifacts produced since early modern times in response to wishes of such people as antique dealers and individual collectors. It is highly risky because the works involved could lose their value if skills used are incomplete.

c. Third is restoration focused on *urushi* craftwork stored in museums and art museums. The objective of the effort is to hold back the worsening of irreversible damage already done to works and retard their deterioration in progress as much as possible to prolong their present condition so that information on materials, techniques and others pertaining to them and historical developments can be retained for exhibition and research.

Repair of *Urushi*-ware as Cultural Assets

The so-called "preservation and restoration of *urushi* artifacts as cultural assets" covers craftwork stored as cultural assets or historical materials in the "c" category mentioned above. Since the objective of the work carried out at present is to preserve cultural assets in existing condition, it is important to study articles before launching restoration work. This is because Japanese *urushi* artifacts are complicated in materials used and steps taken to produce them. As restoration cannot be achieved by standardized techniques because of the complexity, an error in analysis could cause damage to *urushi* artifacts targeted for repair.

For instance, in the case of an *urushi* artifact that has been kept to the present without tampering with its damaged portion, as many reference materials and as much information as possible are studied, analyzed and documented. The materials and information include the background of the era when it was produced, the techniques and materials used, and distinctive features of the region where it was made. In the case of a craftwork that has stayed to this day after undergoing some touch-ups in the past, the time it was repaired, and the techniques and materials used should be treated as important information, analyzed and recorded along with reference materials and information related to its production. In the event it is determined at this stage that the method of repair or the materials employed in the past were detrimental to the preservation of the *urushi* product, it becomes necessary to eliminate those materials. The materials must be removed as much as possible within the range of maintaining the safety of the product itself, but its originality should not be lost. Taking into consideration how balance can be maintained in eradicating materials and retaining the artifact's originality, those involved in its repair should establish a restoration policy and clear any outstanding problems before beginning actual work.

Still, scientific analysis may be required if no judgment can be made through visual inspection. X-ray transmission tomography

is requested if there are structural problems in the artifact involved, and fluorescent X-ray analysis is sought in the case of metal rust and discoloration. Also, advice is sought from specialists in organic chemistry if there is the possibility of the artifact in question having substances other than *urushi* used for repair in the past, and the means of removing the substances are considered. Current activities concerning the preservation and restoration of cultural assets have already entered an era in which they cannot be undertaken without relevant scientific techniques.

Causes of Damage & Solutions

Considering the main factors behind damage to *urushi* artifacts, there are mountains of causes other than simply the deterioration of *urushi* itself, including harm resulting from long-time use, cracks in dried wood that accounts for more than 90% of the *urushi*-ware base, and mold grown on the *urushi* coating due to excessive humidity and grime, among others. After all, however, *urushi* artifacts cannot escape from having coating films worn down by ultraviolet rays since they are articles that are handed down from generation to generation.

Even if used carefully, *urushi* coatings are slowly affected by ultraviolet rays and their surface is degraded before it becomes visible. Depending on various circumstances, the extent of deterioration differs slightly. Cracks hardly visible to human eyes begin to find their way into coating on *urushi* works that have been in existence for more than a century. Humans can barely see any signs of change, but tiny fissures called "microcracks," only spotted by microscopic analysis, gradually grow big and deep through ages. Cracks visible to the naked eye show up in *urushi* coatings aged around 200 years. They get bigger and increase the risk of causing abruption of coating films among those that have continued to exist for more than 400 years. Thus, restoration work becomes necessary for those aged about 200 years to preserve them safely.

Photo: author

Microcracks detected by microscope x50

If one grasps this mechanism, one knows that *urushi* coating maintenance once every 50 to 100 years is effective in retaining craftwork in good condition for a long time. However, there is the danger of upsetting *urushi's* characteristic deterioration rhythm associated with the original *urushi* artifact in the future if substances other than *urushi* such as non-*urushi* coatings or waxes seep into degraded coating films. Therefore, if materials other than *urushi* were used in the past, those materials should be removed as much as possible and they must not be used in renewed restoration work. The idea that has been in the mainstream in the field of preservation and restoration of cultural assets worldwide was that reversible materials should be used for rehabilitation, but that has been replaced by the notion calling for the use of materials applicable to second restoration.

Photo: author

"Kiribako" (boxes made of paulownia wood) are used to store urushi artifacts.

The sense of value regarding the restoration of cultural assets held in Japan at present is no different from that maintained in the rest of the world by people engaging in the rehabilitation of cultural properties. However, with respect to *urushi*, it is necessary for relevant people not to forget its specificity as a coating material.

Future of Cultural-Asset Repair

Finally, with regard to the management of *urushi* works that have been rehabilitated safely, the wood that makes up the bulk of their foundation is still alive even hundreds of years after it was used. For that purpose, Japanese people have made it a practice based on wisdom in the country for very many years to keep *urushi* craftwork in a box made of paulownia to prevent them from exposure to a sudden change in humidity. Paulownia wood works well in absorbing and exhausting humidity in the air and safeguarding the environment within the box from abrupt outside alteration. Protection and management of *urushi* products is sufficiently possible in overseas countries if steps are taken to conform to those in Japan concerning the storage environment and system. Efforts for education about the treatment of *urushi* works before and after restoration may become necessary in the future.

Presently, the number of young people wishing to become technicians in the restoration of cultural assets is slowly increasing, but it is extremely difficult for them to become full-fledged restorers of *urushi* artifacts because the profession is a specialized field requiring them to equip themselves with a considerable number of basic skills. Nurturing human resources in this field cannot be sustained by individuals. Consideration should be made for the establishment of an environment or system along the line of a restoration center as a national project. It is hoped that an institutional system for preservation and restoration of *urushi* artifacts, including budgetary appropriations, will be set up and start functioning as soon as possible. JS

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