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THE ART OF LACQUERING

*According to the Namban-Jin written sources*¹

Leonor Leiria

Lacquerware Conservator

Introduction

The use of unknown materials and techniques in the manufacture of lacquerware soon aroused the curiosity of the foreign visitors in the sixteenth and seventeenth centuries. Several reports concerning the art of lacquering in Japan were written by Catholic missionaries resident in Japanese territory. Probably these documents account for the various stages of the manufacture of objects (particularly for liturgical purposes – Fig. 1) that were commissioned from the



Fig.1
- Namban, handing oratory
- Santa Casa da Misericórdia do Sardoal
- Photo: Manuel José da Palma

craftsmen. A particularly interesting source is the *Vocabulário da Lingoa de Iapam*², dating from 1603 (with a supplement written in 1604³), which tran-

¹ This paper was sponsored by the Fundação Oriente.

² *Vocabulário da Lingoa de Iapam com a declaração em Portugues, feito por alguns Padres, e irmãos da Companhia de Iesu com a licença do Ordinário, e Superiores em Nangasaqui no Collegio de Iapam da Companhia de Iesu Anno 1603. Suplemento deste vocabulario. Anno 1604* (copy from 1747 by João Álvares), B. A., 46-VIII-35.

Editor's note: Due to technical difficulties we were not yet able to introduce the usual character for long vowels in Japanese. Therefore we have used ^ for noting such sounds.

scribed Japanese terms into the Latin alphabet, based on the phonetics of the words, along with their Portuguese definitions. It contains specific entries that enlighten us in an unprecedented way about the local Japanese lifestyle by the end of the Momoyama era (*jidai*). It also provides useful information about lacquerware techniques, as well as the materials and tools utilized.

The purpose of this paper is to investigate the technical knowledge pertaining to the manufacture of Japanese lacquerware in the beginning of the seventeenth century as stated in the above mentioned sources. Instead of using the Japanese *rômaji*⁴, the earlier system developed by the Jesuits, namely by Father João Rodrigues S.J.⁵, who was also known as the Tçuzzu⁶, was adopted. Each entry in the *Vocabulario* could be identified, given the phonetic similarities between the old and the present terminology maintained by the artisans⁷.

Finally, this article will attempt a comparison between the technology utilized in the manufacture of lacquerware in the seventeenth century and the current technical knowledge in this field⁸.

1. The art of lacquering

The Momoyama *jidai* was a time of political and social turmoil, with consequences on the production of lacquerware. During the war period (*sengoku jidai*) the artisans worked under the patronage of the clan lords

3 The *Suplemento* of the *Vocabulario* mentions that “agora que com muitas perseguições desta christandade vagou algum tempo mais aos Padres, e irmãos japoens pera rever, e examinar melhor os vocabularios, que estavam ja ha annos feitos, posto que imperfeitamente: alguns dos que sabião a lingua de Jappão, com a ajuda tambem de alguns naturaes entendidos nella nos applicamos com diligencia por alguns annos aexaminar, acrescentar, e aperfeiçoar este Vocabulario”. [“Now, due to the many persecutions of this Christendom, the fathers and Japanese brothers have some time to revise and better examine the Vocabularies, that were prepared a few years ago, and were lacking in some aspects. Some [of us] who knew the language of Japan, along with the help of some natives who understand [the subject], diligently applied ourselves for some years to examine, add to and perfect this vocabulary”.] It suggests that the information was collected before 1604, perhaps even dating from the end of the fifteenth century. *Voc. Ling. Iapam, op. cit.*, fl. 657.

4 Standardized Hepburn system for Japanese, according to the International Standard ISO 3602, 1989.

5 Written latin alphabet can be seen in quite a number of seals used by Christian *daimyô*, cf. Charles Boxer, “Alguns Aspectos da Influência Portuguesa no Japão, 1542-1640”, *Revista de Cultura*, Macao, nº17 Out/Dez., 1997.

6 For further information on this subject see Michael Cooper S. J., *Rodrigues, o Intérprete, um Jesuíta no Japão e na China*, Lisbon, Quetzal, 1994.

7 According to Mr. Nakasato Toshikatsu, head of the Wood and Urushi Conservation Department of the Tokyo National Research Institute of Cultural Properties and my Supervisor during my apprenticeship in Japan, some technical terms written in the *Vocabulario* reflect words and phonetic features from Nagasaki. This subject deserves further research.

8 My apprenticeship took place at the Tokyo National Research Institute of Cultural Properties, where I learned experimentally the techniques of lacquerware from the sixteenth and seventeenth centuries through the manufacture of samples, for conservation and restoration purposes.

(*daimyô*) and the artistical production was guided by the aesthetic criteria of the court established at Miyako. After the desintegration of the clan system and with the beginning of a new era (*kinsei*), the artisan broke free from his lord and migrated to the cities. Two kinds of production emerged in this period. The *hon-makie*, a manufacture of high technical and aesthetical quality, included the production of the *kôami* school influenced by the erudite culture of the *kanô* and *Tosa*. The second one, known as *machi-makie* and commissioned by the townpeople (*chônin*), was governed by market forces, with consequent changes in its technical and aesthetical features. This urban production, despite its apparent simplicity, showed features of innovation that were to be later recognised. Both productions were referred to in documents, “[...] because there are, amongst these craftsmen, some who gild a certain quality of the best kind of this type that we have ever seen, there are various things painted with solid, powdered gold, and amidst these [...] roses of sheets of gold and silver, so richly ornamented with mother-of-pearl that there are none better, but are so expensive that only the nobility, and rich, can use them, given that there are other, less expensive [pieces] of this kind, which are partly similiar in appearance, but very different in the preparation, lustre and price, and this latter variety is widely used in this kingdom by non polluted people [...]”⁹.

The production of lacquerware for the export market¹⁰ is known as *Namban shikki* (Fig.2). It also includes objects painted with *Namban-jin* motifs, for the internal market, manufactured with high technical quality.



Fig.2
 - *Namban* host box
 - 18 cx
 - Lisbon, Museu Nacional de Arte Antiga, Instituto Português de Conservação e Restauro

⁹ “[...] porque hà entre estes officiaes certos q dourão de certa laya a mais prima obra deste genero q hà no descuberto pintado com ouro solido moido, varias couzas, e entre [...] rozas de laminas de ouro e prata, madreperola tão ricamente feita que não hà mais, mas de muito custo de que somente os Senhores podem uzar, e agente rica, posto que neste genero hà outra de menos custo semelhante na aparencia em parte, mas muito differente no feito, lustre, e custo, e desta segunda sorte se uza muito no Reyno entre gente limpa [...]”. Father João Rodrigues S.J., *Jesuítas na Ásia, Japão, História da Igreja do Japão*, 1549-1570, B. A., 49-IV-53, fl. 146.

¹⁰ For further information see Oliver Impey, *Namban: Japanese Export Lacquer for Portugal*, The World of Lacquer 2000 Years of History (exhibition catalogue), Lisbon, *Fundação Calouste Gulbenkian*, 2001.

The well known quotation¹¹ of Father João Rodrigues S.J. referring to the art of lacquering,

“[...] There is an art form that is universal throughout this Kingdom, akin to painting, that is the art of varnishing, known here as *uruxar* which derives from the word *uruxi*, that is a varnish from the sap of certain trees. At a certain time of the year they make gashes in the trunk [of the tree] from where they obtain an excellent gum, that serves as varnish [...]”¹²

reveals an apparent difficulty in identifying the *urushi*, a material unknown in Europe. In fact, *urushi* is the sap of the *Rhus verniciflua* tree¹³ and not, as is often thought, a varnish or a gum. The ancient varnishes were made from resins, gums or deposits of insects, such as shellac (*coccus lacca*). The latter creates a shiny coating after the evaporation of the solvent, however, the physical properties of these varnishes differ considerably from those created using *urushi*. The *Rhus verniflua* is a hard tree producing a sap composed mainly of *urushiol* (65%-70%), water (20-25%) plant gum (1-10%) and a small percentage of laccase enzyme (less than 1%)¹⁴. Moreover, the *Rhus verniciflua* belongs to the family of *anacardiaceae* which contains active poison compounds (*Rhus toxicodendron*) causing allergic reactions when it comes in contact with the skin¹⁵. The symptoms are defined in the *Vocabulario* as “*Uruximaqe* . Swelling of the face, inflammation due to handling varnish”¹⁶. Therefore, craftsmen were trained throughout the centuries using appropriate utensils and tools to transform the material into a work of art without touching the lacquer itself. Once the lacquer hardens, it becomes an inert material.

The lacquer films are hard but not brittle, are resistant to acid or basic solvents and are also hydrophobic, which makes them useful for the manufacture of food containers. The shimmering surfaces obtained through lustre

11 Quoted before in Maria Helena Mendes Pinto, *Lacas Namban em Portugal*, Lisbon, *Inapa*, 1990.

12 “[...] tem hua arte universal por todo o Reyno que participa da pintura, que he arte de invernizar, que cã chamamos uruxar, do vocabulo *uruxy*, que he verniz de goma de certas arvores, aque em certo tempo do anno se dão golpes no tronco de q sahe huã goma muy excellente, que serve de vernis [...]”
Jesuítas na Ásia, *op.cit.* fl. 146.

13 *Rhus vernicifera* grows in Japan, China and Korea. Others specimens like *Rhus succedanea* from Vietnam and the *Melanorrhoea Usitata* and *Melanorrhoea laccifer* from Burma, Laos, Cambodia and Thailand also produce a sap.

14 For more information about this subject see Kumanotani Ju, *The Chemistry of Oriental Lacquer* (*Rhus verniciflua*), *Urushi*, Proceedings of the Urushi Study Group, Brommelle N. S.; Smith, P. ed., Tokyo, 1985.

15 For further information about this subject see Mahmoud A. Elsohly, Cheng-Yu Ma, et al. “Separation and Characterization of Poison Ivy and Poison Oak Urushiol Components”, *Journal of Natural Products*, vol.45, n°.5, USA, 1982.

16 “*Uruximaqe* . Inchar o rosto, e abrasarse por tratar o verniz. Vz. *Uruxi maqueo suru*”. *Voc. Ling. lapam*, fl. 568.

have been compared with glazed porcelain, “[...] as we have mentioned, they use varnished porcelain, which does not get damaged by water, and is impermeable to humidity or grease because it is almost as though it were glass, to which nothing sticks and it can be washed [...]”¹⁷.

The *urushi* must be filtered and its water content reduced in order to suit the material for lacquer production¹⁸. Different types of substrate were constructed by specialized craftsmen, as mentioned in the *Vocabulario* as “*Tacumiidaxi* [...] *Fimonoya* . Who makes round boxes, and other similar objects of fine boards which can be bent and shaped. *Item*, place where this work is done”¹⁹.

Other craftsmen were responsible for the application of the lacquer layers, e.g. “*Uruxizaicu* [...] . Artisan who varnishes, or lacquers with *Urushi*”²⁰.

Finally, specialists were responsible for creating decorative compositions, e.g. “*Maqiyexi* . Who paints, or makes paintings with powdered gold”²¹.

The information contained in the *Vocabulario* suggests that the art of lacquering was accomplished by skilled craftsmen, each with his own specialization. In the following pages, the procedures of the manufacture of the wooden substrate, the lacquer coatings and the decorative techniques are described in detail.

2. The wooden substrate

Despite being subsequently coated by several layers, the wooden substrates, were produced meticulously: “[...] they are such masters of their art, in all kinds of woodcraft, joining, adjusting, [...] and join and fit the wood or boards in such a way that in the manufacture of a chest, or box that it seems to have been crafted without joints, as though it was made from a single block of wood or board”.²²

Several requirements had to be fulfilled for a substrate be considered suitable for lacquering. The right balance between lightness and resistance on

17 “[...] uzão de loça de verniz como dissemos o qual se não dana cõ agoa, nem penetra da humidade, ou gordura por ser quasi como vidro a que se não pega se se lava [...]”. *Jesuítas na Ásia, op.cit.*, fl. 116.

18 The raw lacquer is subjected to a partial elimination of water content (in order to reach 3%) through heating and centrifugation process (*kurome*).

19 “*Tacumiidaxi* [...] *Fimonoya* . O que faz caixas redondas, e outras obras semelhantes de taboa delgada que se dobra. *Item*, casa onde se faz esta obra”. *Voc. Ling. Iapam*, fl. 460 v.

20 “*Uruxizaicu* [...] . Oficial q enverniza, ou charoa com *uruxi*”. *Ibidem*, fl. 568.

21 “*Maqiyexi* . O que pinta, ou faz pinturas com ouro em pô”. *Ibidem*, fl.291 v.

22 “[...] são tão primos em sua arte em todo o genero de lavar, encaixar, ajustar, [...] e de tal sorte encaixão, e acerto hum pao, ou taboas com outras no feito de alguma caixa, ou boceta de sobremão que parece como surgido sem se ver ajuntura como se fora hum só pao, ou taboa”. *Jesuítas na Ásia, Japão, op. cit.*, fl. 145 v.

the wooden substrates was particularly important. This is illustrated by the following definition: “*Youagi* . Material, or weak matter: material that is used for lacquering, because it is light, and weak so that [the structure] is too fragile and thus does not lacquer well”²³.

The wooden objects to be lacquered are generally designated as *kiji-mono* and are defined in the *Vocabulário* as “*Qigi* . Object made from wood that is later to be varnished with *urushi*”²⁴.

Three main construction procedures for wooden substrates are identified. The first one, refers to wood turning (*bikimono*) defined as “*Figimono* . Work done on a lathe”²⁵ and was used to manufacture, for example, *Namban* host boxes (Fig. 3).

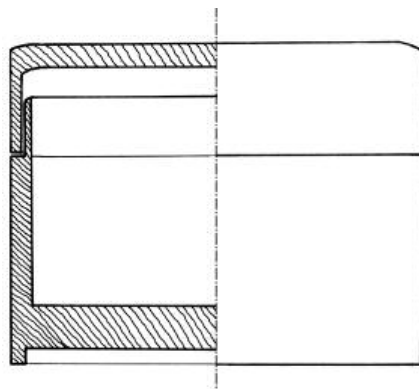


Fig.3
- Schematic section of
the *Namban* host box
(*inrôbuta-zukuri*)
- Drawn by the author

The second procedure pertains to the construction of joints (*sashimono*), designated as “*Saximono* . Box, or container, or any similar object that trunk makers and some carpinters commonly manufacture”²⁶.

Namban objects such as cabinets, lecterns (Fig. 4), chests and coffers were manufactured in this way. The third one, concerns wood bending techniques (*magemono*), defined as “*Uaguemono* . Any box or container made in this way. *Uage* [...] To make round objects such as boxes etc., bending and joining the ends of the slim boards”²⁷. This was widely used in East Asia to produce round and oval shaped boxes.

23 “*Youagi* . Materia, ou sugeito fraco: como a materia que se aparelha p.a uruxar, ser leve, e fraca de maneira q fica mal uruxado”. *Voc. Ling. Iapam, op. cit.*, fl. 645.

24 “*Qigi* . Causa feita de pao q depois ha de ser envernizado com *uruxi*”. *Ibidem*, fl. 737 v.

25 *Ibidem*, fl. 175.

26 “*Saximono* . Boceta, ou caixa, ou qualquer obra semelhante que commummente fazem caixeiros, ou alguns carpinteiros”. *Ibidem*, fl. 433 v.

27 “*Uaguemono* . Qualquer boceta, ou caixa feita desta maneira. *Uage* [...] Fazer cousas redondas como bocetas, etc. dobrando, e ajuntando as pontas das taboas delgadas”. *Ibidem*, fl. 523.



Fig.4
 - *Namban* lectern inv. n°. 37div.,
 - Museu Nacional de Arte Antiga
 - Photo: Manuel José da Palma

The *Vocabulario* mentions that lacquer was blended with animal glue and that it was used for gluing parts of the structure, as “*Xicco. Uruxi . Nicaua .* Certain kind of varnish, and glue, or glue made of these two things. ¶. *Xiccozzuqe .* The act of sticking or gluing something with glue [of animal origin]”²⁸.

It is well known that animal glue was employed as the binding material for the primer coatings, replacing the lacquer to produce objects for daily use as a simplified process. The animal glue was produced by boiling cow (*ushi-nikawa*) or deer (*shika-nikawa*) hide. Mr. Hiroshi Kato refers to the use of this material in a “Nagasaki-style makie raden tray”²⁹.

Careful observation of the wooden substrates of *Namban* objects may show that gaps in an uneven surface were filled with a material known as, “*Cocuso .* Certain kind of glue made from Urushi, and strips of linen”³⁰.

This filler is still made nowadays with lacquer blended with wheat flour (*mugi-urushi*) or rice paste (*nori-urushi*) kneaded with fibres or sawdust. For example, this filler was observed in the interface of the joints of wood substrate of the lectern inv. n°. 37 div., belonging to Museu Nacional de Arte Antiga (Fig. 5).

28 “*Xicco. Uruxi . Nicaua .* Certo verniz, e cola, ou grude feito destas duas cousas ¶. *Xicco zzuqe .* O pegar, ou grudar algua cousa com grude”. *Ibidem*, fl. 590v.

29 Kato Hiroshi, *The Restoration of Urushiware for Export with Animal Glue and Urushi*, (photocopied text), International Course on Conservation of Urushi, 1999, Agency of Cultural Affairs, Tokyo National Research Institute of Cultural Properties (TNRICP), International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM).

30 “*Cocuso .* Certa laya de grude feito de *uruxi*, e panos de linho cortados”. *Ibidem*, fl. 98 v.



Fig.5

- Detail of the Namban lectern inv. n.º. 37div., Museu Nacional de Arte Antiga
- Photo: Manuel José da Palma

3. The lacquer coatings

Lacquerware is a multilayer process (*kyûshitsu*) in which a sequence of coatings is applied (Fig. 6)³¹. The layers are arranged into two groups. First, the priming (*shitaji*) includes the reinforcement of the wooden substrate with fabric followed by the application of several pastes consisting of earth and clay dust mixed with lacquer. The second group consists of the application of multiple thin layers (*nuri*) of coloured lacquer ³².

The *Vocabulário* refers to the priming (*shitaji*) as “*Gi*. Foundation that is prepared first, on which the varnish, or *urushi* of Japan, is later applied” ³³.

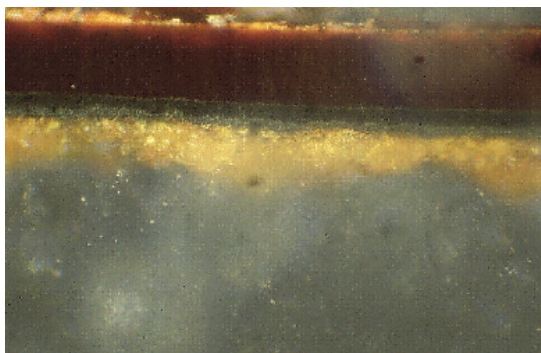


Fig.6

- Cross section of the Namban lectern inv. n.º. 37div
- Museu Nacional de Arte Antiga, Instituto Português de Conservação e Restauro

³¹ The Namban lectern N.º 37 div., mentioned above, was subjected to a scientific examination using diagnostic methods such as microscopy with SEM coupled with X-ray spectrometry, as well as FTIR. The resultant data confirmed that some of the processes and information contained in the *Vocabulário* were accurate. The results of this analysis, carried out in 1993 at the Instituto José de Figueiredo, can be consulted in the archives of the Instituto Português de Conservação e Restauro, in Lisbon.

³² Leonor Leiria, *Lacas Namban: técnicas e materiais*, Report for the Fundação Oriente and Fundação Calouste Gulbenkian, 1996 (photocopied text).

The reinforcement of the wood substrate with fabric is mentioned as “*Tçuyogi* Foundation that is first prepared with cross threaded linen cloth etc. which is later varnished over”³⁴.

This process of covering edge joints and corners in order to strengthen the substrate was observed on the lectern belonging to Museu Municipal de Portalegre.

The second group, concerning the application of lacquer on the surface is mentioned in the *Vocabulario* as “*Uruxi* [...] ¶ *Uruxide nuru* . To lacquer with this varnish”³⁵.

The lacquer was applied onto the surface by means of a brush, e.g. “*Uruxibage* . Brushes with which they apply this varnish”³⁶.

As far as the lacquer colour is concerned, the *Vocabulario* refers only to the black, red and white. The former is generally mentioned as “*Cocuxit* . *Curoi uruxi* . Very fine black varnish, or black urushi of Japan”³⁷ as also “*Xin* [...] *Xinno uruxi* . Deep black Japanese varnish”³⁸.

Black lacquer could be obtained in two ways. Adding iron file dust (iron hydroxide), known as *ohaguro*, to the lacquer resulted in a chemical reaction whereby the lacquer turned black. Alternatively, carbon black could be added to the lacquer. The lacquer coloured with file dust tends to turn brown, while that manufactured with carbon black is more stable and resistant to aging.

The red lacquer (*shu-urushi*) is generally defined in the *Vocabulario* as “*Xuuruxi* . Red colour of varnish. Vz. *Xuuruxioi nuru*. To varnish with red”³⁹. The term *shu* designates the pigment composed by mercury, also known as cinnabar or vermilion. The presence of vermilion lacquer (*shu-urushi*) was observed in the inner surface of the chest belonging to Museu de Arte Sacra do Mosteiro de Arouca (Fig. 7).

The white lacquer is defined in the *Vocabulario* as “*Xiro uruxi* . Object varnished in white, or to varnish with white [...] Vz. *Xirouruxini nuru* . To varnish in this manner.”⁴⁰

This may be surprising, given the fact that when lacquer is combined with some natural pigmented substances it has a tendency to darken. White

33 “*Gi* . Fundamento que se prepara primeiro pera depois se por o verniz, ou *uruxi* de Japão”. *Voc. Ling. Iapam, op. cit.*, fl. 704.

34 “*Tçuyogi* . Fundamento q primeiro se prepara com pano de linho griedado, etc. pera depois p. cima se envernizar”. *Ibidem*, fl. 763.

35 “*Uruxi* [...] ¶ *Uruxide nuru* . Charoar com este verniz”. *Ibidem*, fl. 568.

36 “*Uruxibage* . Pinceis com q poem este verniz”. *Ibidem*, fl. 568.

37 “*Cocuxit* . *Curoi uruxi* . Verniz preto muito fino, ou uruxi preto de Japão”. *Ibidem*, fl. 99.

38 “*Xin* [...] *Xinno uruxi* . Verniz de Japão mto. Preto”. *Ibidem*, fl. 786.

39 “*Xuuruxi* . Cor vermelha de vernis. Vz. *Xuuruxioi nuru* . Envernizar de cor vermelha”. *Ibidem*, fl. 793.



Fig.7

- Chest inv. n°109
 - Museu Nacional do
 Convento de Arouca
 - Photo: by the author

pigments generally decompose due to the acidic pH value of *urushiol* (between 4.2 to 5.3). Historical evidence suggests that it was possible to obtain white lacquer only in the nineteenth century, with the development of synthetic substances⁴¹. This incompatibility of lacquer with certain pigments may reveal that alternative techniques were used, for example, *mitsuda-e*, which consists of a blend of vegetable oil⁴² and lacquer, to which a pigment is added, or simply oil mixed with a pigment such as litharge (composed of lead oxide)⁴³.

Regardless of the lacquer, coatings were carried out in two ways. The *Fananuri* was “a certain way of varnishing something with the *urushi* of Japan”⁴⁴ and the *Rôiro* was “colour of Japanese varnish that is obtained, after [the object] has been varnished many times, rubbing it [the topcoat] very well with saliva each time. ¶ *Rôirouo toru*. To varnish something in this way and in this colour”⁴⁵.

Both techniques produce the highly prized shimmering surfaces. However, while in the former (*hana-nuri*, which literally means “flowery coating”) the lacquer was mixed with vegetable oil⁴⁶, which conferred an

40 “*Xiro uruxi* . Couse envernizada de branco, ou envernizar de branco [...] Vz. *Xirouruxini nuru* . Envernizar desta maneira.” *Ibidem*, fl. 788 f. and v.

41 For further information about this subject see Toshikatsu Nakasato, *Traditional Japanese Urushi Techniques and their Restoration*, International Symposium on the Conservation and Restoration of Cultural Property, Tokyo, *Tokyo National Research Institute of Cultural Properties*, 1995.

42 Perilla oil obtained from the seeds of *Perilla frutescens* Brit. was boiled with pigment and used as a medium.

43 For further information about this subject see Julia Hutt, *Japanese Lacquer painting*, Colloquies on Art & Archeology in Asia, *Percival David Foundation of Chinese Art*, n°11, London, 1981.

44 “Certo modo de envernizar alguma coisa com *uruxi* de Japão”. *Voc. Ling. Iapam*, op. cit., fl. 686.

45 “Cor de verniz de Japão, q fica depois de envernizada huã coisa m.tas vezes, esfregandoa de cada vez muito bem com cuspinho ¶ *Rôirouo toru* . Envernizar alguma coisa desta maneira, e desta cor”. *Ibidem*, fl. 747.

intrinsic gloss to the surface, while the latter technique (*roiro-nuri*, which literally means “wax colour coating”) requires polishing. Lustre (*migaki*) was obtained by repetitive steps using oil, water or saliva rubbed on the top coating, with or without polish powder⁴⁷. One of these steps is *Aburamgaqi* (which corresponds nowadays to *aburamigaki*), “the act of giving lustre to an object with oil, after it has been well smoothed, and polished”⁴⁸.

Although both techniques were employed, the majority of *Namban* objects for export were made using the *hana-nuri* technique.

4. The decorative techniques

Materials such as metals and alloys reduced to a powder (*fun*) or foil (*baku*), mother-of-pearl (*kai*) and ray skin (*samegawa*) were widely appreciated for decorative purposes. One example, generally known as *makie*, the tradition of metal powder sprinkled onto the lacquer’s surface is defined in the *Vocabulario* as “*Maqiye* . Painting [made] with gold ground into powder”⁴⁹. One of the most famous is designated by *takamakie* which consists of sprinkled metal powder onto the relief of a surface. This technique is identified in the *Vocabulario* as, “*Tacamaqiye* . The most sublime way of gilding, and painting with powdered gold in such a way that the painting is in relief or is raised”⁵⁰. This technique is evident in the motifs of *Namban-jin* decorating the gunpowder flask surface, inv. n.º. 931 div. belonging to Museu Nacional de Arte Antiga.

Metal powder was produced in a variety of shapes and sizes of the grain in order to create innovative arrangements on compositions by the craftsmen. For instance, metal powder compressed into flakes of irregular shape and different sizes (*nashiji-fun*) sprinkled onto the lacquer’s surfaces creates an effect widely known as “pear skin”, which is also literally the meaning of the word *Naxigi* defined as “Gold sprinkled over *Urushi* ¶ *Naxigiuo maqu* . To gild in this manner”⁵¹.

Three main processes using metal flakes (*nashiji-fun*) were described: “*Coinaxigi* . Gold sprinkled directly over *urushi*”⁵²; “*Curonaxigi* . Certain

46 The top coating of the *hana-nuri* technique is designated as *Nuritate* and defined as “Acabar de barrar, acafelar, ou envernizar alguma cousa” [Finish by applying, plastering or varnishing something.] *Ibidem*, fl. 734.

47 To obtain lustre, thin polish powders were used such as, for example, pulverized clay (*tonoko*) for a process known as *dôzuri*, and calcinated deer-antler (*tsunoko*) for a process known as *roiro-migaki*.

48 “O dar lustro alguma obra com Azeite depois de bem acepillhada, e polida”. *Voc. Ling. Iapam, op. cit.*, fl. 3 v.

49 “*Maqiye* . Pintura de ouro moido em pó”. *Ibidem*, fl. 291 v.

50 “*Tacamaqiye* . O supremo modo de dourar, e pintar com ouro em pó de maneira que fique a pintura mais sobrelevada, ou alevantada”. *Ibidem*, fl. 458.

51 “Ouro salpicado sobre *uruxi*. ¶ *Naxigiuo maqu* . Dourar desta maneira”. *Ibidem*, f. 347.

process or way of gilding, that is done by sprinkling gold dusts on a black background”⁵³; and “*Tobinaxigi* . Certain way of gilding with powdered gold, gilding some areas and leaving others ungilded”⁵⁴. Flakes reflecting light under specific angles have been observed on the inner surface of the writing box belonging to the Museu do Caramulo.

Very fine gold dust was obtained by grinding metal foil, which was then densely sprinkled onto the surface, creating a homogeneous background (*Ikakeji*), defined as “*Iccaqe* . Certain kind of gilding, with ground gold, or gold reduced to a very fine powder”⁵⁵. However, a similar effect could be obtained simply by applying gold foil (*kinpaku-ji* or *shippaku*) onto the lacquer surface, mentioned as “*Xippacu* . Method of placing, or setting, gold foil on the urushi. *Xippacuni suru* . To make an object in this way”⁵⁶.

Fragments of mother-of-pearl (*kai*) combined with *makie* and contrasting with the black surface appears to be a constant feature of *Namban* lacquers (Fig. 8). Some *Namban* objects show mother-of-pearl⁵⁷ deliberately cut into the shape of a pattern or motif, while others are simply fragmented

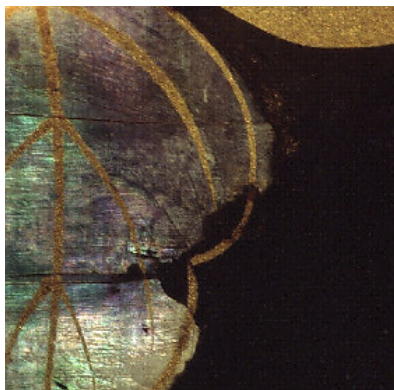


Fig.8
- Detail of the inside decoration Chest inv,
99 cx
- Museu Nacional de Arte Antiga
- Photo: by the author

into irregular shapes and applied onto the priming layers. This technique was commonly known as *raden* but the *Vocabulario* refers to it as “*Auogai* . object [surface] made from small pieces of oyster shell, stuck with urushi”⁵⁸.

52 “*Coinaxigi* . Ouro salpicado espressamente sobre *uruxi*”. *Ibidem*, fl. 676 v.

53 “*Curonaxigi* . Certa obra, ou modo de dourar q se faz lancando pós de ouro sobre câpo preto”. *Ibidem*, fl. 681.

54 “*Tobinaxigi* . Certa maneira de dourar com ouro em pò dourando algus lugares, e deixando outros por dourar”. *Ibidem*, fl. 765.

55 “*Iccaqe* . Certo modo de dourado, com ouro moido, ou desfeito em polme”. *Ibidem*, fl. 243.

56 “*Xippacu* . Modo de por, ou assentar folha douro sobre *uruxa* (sic). *Xippacuni suru* . fazer obra desta maneira”. *Ibidem*, fl. 601 v.

The word *aogai* literally means “bluish shell” and a technique known as *aogai-nuri*, where the pieces of mother-of-pearl were finely cracked (*warigai*) creating an irregular mosaic, was also highly prized. Finally, fish skin from ray or shark skin (*Rhinobatidae*), frequently covered the background of *Namban* items and military objects and is mentioned in the *Vocabulario* as “*Same* . A certain kind of fish such as rays or dogfish. Item. The skin of this fish, that serves to cover the hilts of catanas (swords), or the scabbard”⁵⁹; and also “*Mazame* . Skin of a sea fish, that is used for scabbards of *catanas*, or *vaquizaxis*”⁶⁰, thus emphasizing its wide use in covering the pair of long (*katana*) and short (*wakizashi*) sword handles in vogue during the Momoyama *jidai*.

Conclusion

The present study attempted to emphasise the existing knowledge of the art of lacquering in Japan in the seventeenth century. The initial goal of preparing a *Vocabulario* which, according to the source, sought to help future European missionaries in Japan - was undoubtedly surpassed. Certainly, amongst the Fathers, and brothers of the Society of Jesus of the Nagasaki College there existed a wide spectrum of knowledge about the technical aspects of lacquerware in the seventeenth century. The definitions of the *Vocabulario* are not simply general statements but instead demonstrate an accurate observation of the manufacturing stages, from the construction of the core, to the coatings and decoration.

Finally, the reliability of the written sources used in this work is demonstrated by confirming the various definitions through direct observation of *Namban* objects.

57 The mother-of-pearl commonly used in *Namban* lacquerware was identified as *awabigai*, obtained from the shell, *Haliotis (Nordotis) gigantea* (Gmelin) or *Haliotis (Nordotis) gigantea sieboldi* (Reeve). The vocabulary mentioned it as *auabigai - casca de lapa* [*auabigai - limpet shell*] (*Voc. Ling. Iapam, op. cit.*, fl. 661). The *aogai* shell belongs to the *Patelloida (chiazacmea) striata* (Quoy et Gaimard) and is found in the waters of the Ryukyu Islands. For further information about this subject see Yoshikuni Taguchi, *Essays on Shells that Became Cherry Blossoms*, Urushi, Proceeding of the Urushi Study Group, Brommelle N. S.; Smith, P. ed., Tokyo, 1985.

58 “*Auogai* . Obra feita de pedacinhos de casca de ostras pegados com *uruxi*”. *Voc. Ling. Iapam, op. cit.*, fl. 28.

59 “*Same* . Hum certo peixe como raya, ou lixa. Item A pelle deste peixe, que serve de cobrir os punhos da *catana*, ou a bainha”, *Ibidem*, fl. 423f. and 424v.

60 “*Mazame* . Pelle de hũ peixe do mar, que serve pera bainhas de *catanas*, ou *vaquizaxis*” *Ibidem*, fl. 295v.

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ANNEXE

EXCERPT FROM THE VOCABULARIO DA LINGOA DE IAPAM

Bicudan Migaqi . Way of applying urushi on a gilded background in such a manner that it acquires the colour of sandalwood that has been well polished and smoothed.¶ *Biacudano Iro* . Colour of this wood on which urushi is applied over gilt⁶¹.

Caquiuxi .Vz. *Caqiauxeni nuru* . To apply a coating of black urushi ⁶²

Cataqi . Foundation that is first prepared well, on which the varnish or urushi of Japan is later applied ⁶³.

Faqe . Broad brush used to spread the glue on the paper, or with which urushi, wash etc. is applied ⁶⁴.

Fidarimaqi . Certain kind of paper that is wrapped on the shafts of spears, scabbards of *catanas* (swords) etc., from the right to the left.¶. *Item*, Certain way of varnishing the same things of this kind with urushi. ⁶⁵

Maqichiraxi, su, aita . To spread by sprinkling [“to sow”] [...]¶ *Permet. Guinguino maqichirasu* . Set, or spread, gold, and silver ⁶⁶.

Migaqitcuqe, uru, eta . Cleaning, and polishing. Item gilding with foil Vz. *Faxirano Xippacuni Migaqitcuqeta* . To gild the columns with foils of gold over urushi⁶⁷.

61 “*Bicudan Migaqi* . Mode uruxar sobre dourado de maneira que fique de cor de sandalo bem polido e lizo.¶ *Biacudano Iro* . cor deste pao que se dá com *uruxi* sobre dourado”. *Ibidem*, fl. 39 v.

62 “*Caquiuxi* .Vz. *Caqiauxeni nuru* . Dar huã mão de *uruxi* preto”. *Ibidem*, fl. 668.

63 “*Cataqi* . Fundamento q se prepara bem primeiro pera depois se pôr sobre elle o verniz, ou *uruxi* de Japão”. *Ibidem*, fl. 670.

64 “*Faqe* . Pincel largo pera estender o grude no papel, ou co que uruxão, cayão, etc”. *Ibidem*, fl. 149.

65 “*Fidarimaqi* . Certo papel q se embrulha nas hasteas das lanças, bainhas das catanas, etc. da mão direita p.a a esquerda.¶. *Item*, Certa maneira de envernizar com *uruxi* as mesmas cousas desta laya”. *Ibidem*, fl. 690 v.

66 “*Maqichiraxi, su, aita* . Semeando espalhar Vz (...) ¶ *Permet. Guinguino maqichirasu* . Botar, ou espalhar, ouro, e prata”. *Ibidem*, fl. 291.

Morouruxi . Certain kind of fine varnish that they apply over the leather of scabbards ⁶⁸.

Nigiûmaqiye . Certain method of gilding with coarsely ground gold ⁶⁹.

Nuri, u, utta . To daub, or lacquer, etc. [...] ¶ *Uruxide monouo nuru* . *L. Uruxino nuru* . To apply urushi or lacquer something [...] ⁷⁰.

Nuriague, uru, etc . To finish applying the last coat when one varnishes something. ⁷¹

Nurimono . Something that has been varnished with urushi. ⁷²

Nuritate, tcuru, eta . Finish by applying, plastering or varnishing something ⁷³.

Nuxi . Artisan who varnishes with urushi⁷⁴.

Nuxiya . Place where urushi work is done ⁷⁵.

Qigigura . Horse saddle that has not yet been varnished in conformance with the usage of Japan ⁷⁶.

Sane . Iron items lacquered in black such as the heads of nails used in arms, which are interlinked by cords of various colours ⁷⁷.

Suriuruxi . Certain way of varnishing with Japanese varnish⁷⁸.

67 “*Migaqitcuqe, uru, eta* . Alimpar, e polir. *Item.* Dourar de folha Vz. *Faxirano Xippacuni Migaqitcuqeta* . Dourarão as colunas com folhas de ouro sobre *uruxi*”. *Ibidem*, fl. 306v.

68 “*Morouruxi* . Certo verniz fino que se poem por cima do couro das bainhas”. *Ibidem*, fl. 322 and 322v.

69 “*Nigiûmaqiye* . Certo modo de dourar com ouro moido grosso”. *Ibidem*, fl. 731 v.

70 “*Nuri, u, utta* . Untar, ou charoar, etc [...] ¶ *Uruxide monouo nuru* . *L. Uruxino nuru* . Uruxar, ou charoar algũa cousa [...]”. *Ibidem*, fl. 365 v. e 366 f.

71 “*Nuriague, uru, etc* . Acabar de dar a ultima mão quando se enverniza algũa cousa”. *Ibidem*, fl. 734.

72 “*Nurimono* . Cousa uruxada”. *Ibidem*, fl. 366.

73 “*Nuritate, tcuru, eta* . Acabar de barrar, acafelar, ou envernizar algũa cousa”. *Ibidem*, fl. 734.

74 “*Nuxi* . Official de charoar com *uruxi*”. *Ibidem*, fl. 366 v.

75 “*Nuxiya* . Casa onde se faz esta obra de *uruxi*”. *Ibidem*, fl. 366 v.

76 “*Qigigura* . Sella de cavallo q não está ainda envernizada conforme o uso de Japão”. *Ibidem*, fl. 737 v.

77 “*Sane* . Ferros uruxados de preto como cabeças de pregos das armas, entre os quaes fazem atecedura de varias cores”. *Ibidem*, fl. 425.

Tamenuri . Certain way of varnishing with fine urushi, in such a way that it becomes thick ⁷⁹.

Tçubacura. L. Tcubacurame .i, Tcubame . [...] *Item* . Rim, or black groove that they make around the edges of the rice bowls lacquered in red ⁸⁰.

Urumiyu . Red colour on a dark [background] in a varnished object ⁸¹.

Unocubi . Space between the tip, and spear shaft that the Japanese commonly and customarily varnish with urushi, or paint ⁸².

Uruxi . Varnish of Japan ¶ *Uruxiuo caqu* . To extract or scrape this varnish from the tree ¶ *uruxini maquru* . To suffer an allergic reaction on the face due to urushi ¶ *uruxide nuru* . To lacquer with this varnish ⁸³.

Uruxicaqi . Iron instrument with which they extract the urushi from the tree ⁸⁴.

Uruxini maquru . To suffer an allergic reaction on the face due to urushi ¶ *Uruxide nuru* . To lacquer with this varnish ⁸⁵.

Uruxinoqi . Tree that produces varnish, or urushi ⁸⁶.

Xippacu . Way of placing or setting gold foil in urushi ¶ *Xippacuni suru* . To make an object in this way ⁸⁷.

78 “*Suriuruxi* . Certo modo de envernizar com o verniz de Japão”. *Ibidem*, fl. 756.

79 “*Tamenuri* . Certo modo de envernizar com *uruxi* fino de maneira, q fique grosso”. *Ibidem*, fl. 758 v.

80 “*Tçubacura. L. Tcubacurame .i, Tcubame* . [...] *Item* . Debrum, ou vinco preto q fazem ao derredor das bordas das escudelas do arroz charoadas de vermelho”. *Ibidem*, fl. 477 v.

81 “*Urumiyu* . Cor vermelha sobre escuro de cousa envernizada”. *Ibidem*, fl. 779.

82 “*Unocubi* . Espaço entre o ferro, e hastes da lança q os Japoens commumte. costumão uruxar, ou pintar”. *Ibidem*, fl. 538 v.

83 “*Uruxi* . Verniz de Japão ¶ *Uruxiuo caqu* . Tirar, ou raspar este verniz da arvore ¶ *Uruxini maquru* . Ficar abrasado no rosto do *uruxi* ¶ *Uruxide nuru* . Charoar com este verniz.” *Ibidem*, fl. 568.

84 “*Uruxicaqi* . Instrumento de ferro com q tirão o *uruxi* da arvore”. *Ibidem*, fl. 568.

85 “*Uruxini maquru* . Ficar abrasado no rosto do *uruxi* ¶ *Uruxide nuru* . Charoar com este verniz”. *Ibidem*, fl. 568.

86 “*Uruxinoqi* . Arvore q dà verniz, ou *uruxi*.” *Ibidem*, fl. 568.

87 “*Xippacu* . Modo de por, ou assentar folha doura sobre uruxa ¶ *Xippacuni suru* . Fazer obra desta maneira”. *Ibidem*, fl. 601 v.

Xittçu Uruxiuoqe . Weight used to measure urushi ⁸⁸.

Xiraqi . Object or vessel made from plain [unvarnished] wood such as that used for arches/bows (?), or [a] wooden bowl [yet] to be varnished [...] *Xiraqiuo gôxi* . Plain wooden bowl to be varnished [...] ⁸⁹.

⁸⁸ “*Xittçu Uruxiuoqe* . Barça de *uruxi*”. *Ibidem*, fl. 608 v.

⁸⁹ “*Xiraqi* . Peça ou vaso feito de pau em branco como arco, ou escudella p. envernizar [...] *Xiraqiuo gôxi* . Escudella em branco p. envernizar [...]”. *Ibidem*, fl. 788.

Abstract

This paper examines the technical knowledge pertaining to the manufacture of Japanese lacquerware at the beginning of the seventeenth century, as mentioned in reports written by Jesuits. In particular, a principal source of information was the *Vocabulario da Lingoa de Iapam*, dating from 1603, which transcribes Japanese terms and gives their Portuguese definitions, thus providing important information about lacquerware techniques, materials and tools. This information has been corroborated through direct observation of *Namban* objects from Portuguese collections.

Resumo

Pretende-se, neste artigo, verificar os conhecimentos técnicos sobre a manufactura de lacas Japonesas no princípio do século XVII, segundo fontes escritas por jesuítas na época. Este estudo baseia-se essencialmente em informação recolhida no *Vocabulario da Lingoa de Iapam*, datado de 1603 e que traduz termos japoneses para português fornecendo importante informação sobre as técnicas, materiais e utensílios usados na arte de laca.

A presente informação foi comparada e comprovada com a observação directa de exemplares lacados *Namban* pertencentes às colecções portuguesas.