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RESTORATION OF A TRADITIONAL INDIAN INSTRUMENT – SARASWATI VINA. AN INTERDISCIPLINARY APPROACH

General historical aspects

The Saraswati Vina is the national instrument of India and, at the same time, the classic of classical Indian instruments. *Vina* is the generic term for stringed instruments in this country.

Over time, there have been 25 different Vina models in the South alone, a region known for its classical Hindu music (known as *Carnatic music*); but more than 80 types have been documented throughout the Indian tradition. The origin of all of them was Kanaka-Veena or brahma, but Saraswati Vina is the most iconic of all variants. For an Indian, it is enough to hear the word Vina for the image of the Saraswati Vina to come to his mind. Its measurements and structure are considered the standard benchmark for all others. The instrument is of sacred origin and it is mentioned in Vedic literature, dating from the first millennium BC. Sculptures from ancient temples from the 2nd century BC show a model of Vina.

Legend has it that, on a rainy day, a sage went to fetch water from a lake. The torrents of rain, carried by the wind through the lotus leaves into the lake water, disturbed the birds, and they began to utter inexplicably sweet sounds. The sage was amazed by the richness of the melodious sounds made by the falling drops of water and the low, medium and high notes

coming from the birds. Having returned to his hermitage, the sage meditated deeply on what he had heard and the possibility of inventing a musical instrument to imitate those sounds.

Helped by the gods, he created several instruments, both drums and stringed instruments. Of these, the one standing out by far is the *Vina*, which is associated with two deities from the Hindu pantheon. The first and most important is the goddess of knowledge, education and arts – Saraswati Devi. Invoked on many occasions in relation to education, she is considered the patron of music itself, also called *Vina Pustaka Dharini*. Saraswati shared with man the knowledge of the systematic arrangement of musical sounds on the staff. In pictorial representations, she frequently appears seated on a lotus, playing the Vina (her instrument is called *Kachchapi*) and holding a book in one of her other four hands. The second deity associated with this instrument is Shiva. A sacred verse says that “Salvation can be obtained by those who are able to perceive Shiva’s mind through the indescribable pleasure they feel when they listen to the divine music of Vina.”

Technical description of the instrumental execution

In olden times, the Saraswati Vina was

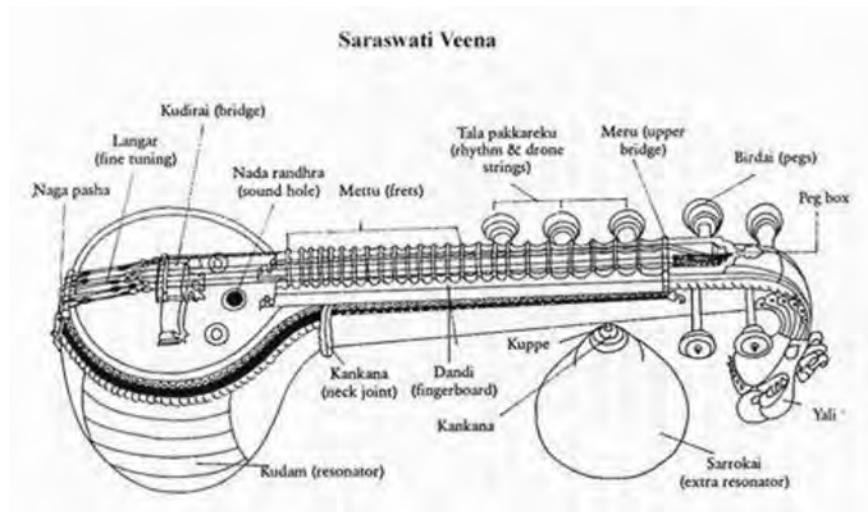


Fig. I.1 Schematic image of the Saraswati Vina instrument, with all its components.

carved out of a single piece of solid wood (jack-fruit wood – *Artocarpus heterophyllus* – an exotic wood, which is widespread in Asia, from the mulberry family). When made out of a single log, it is called *Ekantha*. Our model of Vina is known as *Ottu*, made out of three parts. In the modern period and today, only the very good quality instruments conform to the technique of carving out of a single log, while the ordinary ones, no matter how beautifully made or decorated, are carved out of three sections: a large resonator (*kudam*), a conical neck, long, hollow on the inside (*dandi*), and a dragon's head (polychrome wood *yali*, gold-plated, with wolf or ivory teeth), to which a box where the ends of the strings are hidden is attached.

There is also a small resonator (*sarrokai* or *thumba*), like a bulb, fixed to the neck. The three parts are jointed together using interlocks and strong adhesives (Fig. I.1).

The large resonator (*Kudam*) is in the shape of a cup obtained by removing a large amount of wood from the log by carving it with a chisel, ax or hammer and large metal feathers. The drawing in the following image describes its geometry, its curves and proportions. The precision with which the craftsmen carve the wood is amazing, even though the log has nodes or other defects. The work is done in several stages. A rough shape is carved first, outlining the lines of the cup; then the wood is left to dry for almost

two years; then the carving continues until the walls of the resonator become perfectly smooth, at a thickness of 6-8 mm. The walls of the cup in some older instruments can be as thin as 2-3 mm, but this makes them extremely fragile. The advantages of this thinness are the low weight of the instrument and the loud sounds it produces. In those instruments, a bigger thickness needs to be maintained at the lower end of the body, opposite to the neck, for screwing in the tailpiece, as well as at the upper end, for fixing of soundboard on the bridge (Fig. II.3).

The soundboard is an essential part for the final sound quality of the Vina. The wood must be properly dried, with neither nodes nor defects, and must have fibers parallel to the length of the instrument. Most of the time it is made out of a single wooden board, but there are some cases with a set of two pieces glued together onto the edge. Jack wood (a species related to mulberry), rosewood or red cedar can be used for its fabrication (Fig. II.4).

The neck (*Dandi*) of the Vina is hollow on its whole length, which makes it look like a gutter, narrowing progressively in depth and width as it approaches the edge of the resonator, as seen in the image below. This drawing also shows the proportions and the main measurements that characterize the shape of this part (Fig. I.1).

The keys (*birdai*) for tightening and tuning the strings are arranged five on one side edge of

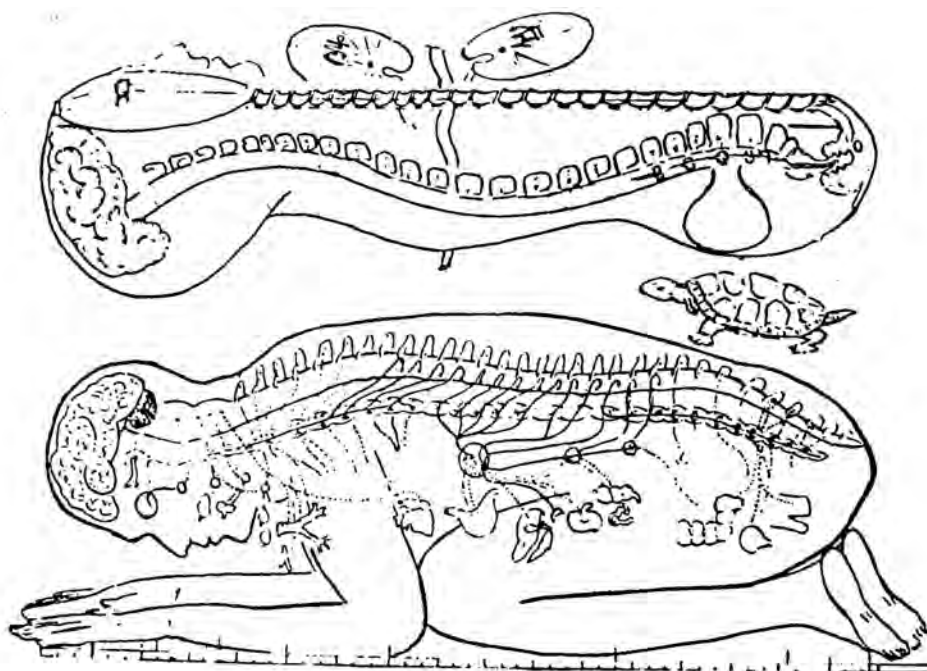


Fig. I.2 Representation of the similarity between the instrument and the human body.

the neck, two on the other edge. Four strings are for the melodic rhythm and three for the whirring sounds.

Along the neck, there are two slats fixed with glue, creating the greater depth of the channel in the neck. On these there are two strips of black colored wax, in which are inserted 24 frets / brass bars (12 for each octave). Wax is used so that the frets can be moved in order for the performer to find the desired sound. The neck therefore serves as a keyboard. A peculiarity that makes this instrument even more interesting is, on the one hand, the belief of the performers that they are dealing with a divine instrument, and on the other hand, that the way it is structured is similar to the human body. For example, the frets are imagined as mimicking the vertebrae in the spinal cord (Fig. I.2).

The main bridge is placed on the large resonator; it is made out of hardwood, covered by a convex brass plate, glued in place with resin. The slight curvature of the brass plate is known as the “light curvature”; the specific sound of the Vina is generated by this brass plate on which the strings vibrate.

The box (Peg) to which the pegs holding the strings are attached is a compartment that is

separated from the neck by a slightly curved lid. This box can also be used by the instrumentalist to store small accessories (screws, nails etc.). Most often, the wood used for this box is rosewood, because it is noble and has high hardness. The fitting with the neck is made by a “tenon”, a clamp that ensures a strong binding to the rest of the instrument. Next, **the Yali head** is carved separately, and glued or screwed afterward, without further complications or any special set-ups.

The small resonator (Sarrokai) is not a functional resonator, but it is mainly used as a support to facilitate the positioning of the instrument when played (Fig. I.1). The small resonator can be made of acoustically neutral materials, such as paper or other similar materials, but the traditional ones are made out of gourd/ decorative pumpkin.

The decorative elements are spectacular, either because of the valuable materials used (such as ivory or gold alloy sheet) or because of the vivid colors and the detailing of their craftsmanship. An ivory veneer adorns the piece on all sides. Moreover, ivory, serrated on one edge, is painted with floral motifs, with fine lines made with a brush or a sharp tool, in red, green and black. The dragon’s head is plated with metal



Fig. II.1. Saraswati Vina instrument, Pavel Şuşarǎ's collection: front view.



Fig. II.2 The Saraswati Vina instrument, Pavel Şuşarǎ's collection: back view.

or even gold foil, painted in red and black. The dragon's teeth are either wolf's teeth or ivory. The area in the neck canal and the edges of the box are also plated.

The areas where the components of the instrument are assembled are masked with fragments of deer antler. In the 70s, the use of deer antlers was banned in India, which is why plastic, bone or ivory are used nowadays.

The wood finishing is made with shellac, a widespread technique among Indian craftsmen in southern India. The length of the instrument is about 120 cm.

Description of conservation status

The Saraswati Vina from Pavel Şuşarǎ's collection has a length of 120 cm (Fig. II.1; Fig. II.2). When undertaken to be restored, some component elements were found detached from the instrument: the dragon's head (Yali), the cover that masks the joining of the strings at the top

of the neck, the bridge, a wrench for tightening the strings, a fret, fragments of wax (Fig. II.3; Fig. II.4), the strings were detached at one end, tangled and with deposits of oxides and dust. The piece presented numerous damages, both on an aesthetic level, and in terms of its structure and its different component elements; there were also several areas where the materials have been detached, and other similar deficiencies. Judging from the appearance of the paint on the large resonator (Kudam), there seems to have been some attempts to tighten some of the joints (hinges). The Yali was torn from the main body and was reconsolidated with a thick layer of adhesive. Out of the seven *birdai* (wrenches for tightening the strings), five were missing; the small resonator (*sarrokai*) was also missing, along with nine frets (*mema*) out of the 24, the two metal plates on the bridge (*kudirai*) on which the strings rest, from which an absent fragment was broken off. The wax bed for the frets was melted and deformed



Fig. II.3 Elements detached from the piece: Yali dragon's head; the cover that masks the holding of the strings at the top of the neck; the bridge; a key to tighten the strings; frets (loaded with wax); wax fragments.

along the entire length of the neck, with discontinuous agglomerations and partial detachments of the materials.

The large resonator (*kudam*) (Fig. II.5) is decorated all around with two *ivory* strips, serrated on the edge and painted with floral motifs in red, green and black. Ivory is applied with the help of some capillary rivets, glued to the wooden body of the instrument. On the front of the resonator there are also two ivory ornaments inlaid with floral shapes in red and green, each framed by a circle with point decoration, circumscribed by two other simple ivory circles, 8 cm apart from each other.

The flat surface of the resonator showed deposits of adherent dirt; yellow and brown paint stains added later; shellac losses in most utilized areas; lusterless shellac on the entire surface, scratches, mechanical wear, a crack (36 cm long and 2 mm thick at the base) in the wooden mass that extends from the *naga pasha* – the end to which all the strings are attached, in an element of silver-plated copper (strongly oxidized) fixed with two screws at the edge of the resonator – to near the beginning of the neck. This crack was probably caused either by a mechanical factor

or by the fluctuating conditions in temperature and relative humidity.

The ring for holding the strings (*Naga pasha*) is the metal element that holds the strings at one of the two ends (Fig. III.7). It showed traces of oxidation and there was a 6 cm crack in the wooden mass beginning from its underside. The strings were looked like a tangled ball, with deposits of dust and oxides (Fig. II.6).

The neck is 54 cm, decorated on either side with a 1.5 cm wide ivory strip, serrated on the edge and painted with floral motifs in green, red and black. Under the strings there is a deep channel, where a metallic gold foil is glued. The strip is detached from the surface of the neck on a length of 8 cm, but it is well preserved. Along the neck, the two beds of wax came off, changed their shape, and accumulated in several fragments (Fig. III.10).

Dragon's Head (*Yali*)

The dragon's head has a decorative role, it is the most spectacular artistic component of the instrument and the most degraded.

The result of the laboratory analysis (X-ray fluorescence spectrophotometry) determined that the metal foil is an alloy of gold, silver and



Fig. II.4 Elements detached from the piece: frets, wax fragments, key for tightening the strings.

copper. This foil suffered numerous damages and was detached or missing on a large surface.

The colors identified in the laboratory are lead white (for the eyes) and lead red (the red pigment for the head element decoration).

The cracks in the metal foil occurred in the direction of the wood fiber. The plated decoration is made by applying metal foil on a cellulose layer, which is then fixed on the wooden support by an organic binder film (probably animal glue). The paper layer, which serves as the support for the metal foil, was colored in a shade of light brown. The sculpted element partially presented a preliminary preparation most probably made with a putty milk made from the mixture of a protein binder with an inert material of mineral origin (calcium carbonate – according to the optical investigation bulletin) (Fig. II.7).

In the immediate vicinity of the Yali head there are two tears stuck back together with a coarse layer of resin. In the original technique, the polychrome sculpture element is made separately, and later glued to the neck. Due to frequent usage and the gradual degradation of the binders, the polychrome sculpture element came off over time, necessitating rebinding. Over time, color was used to cover the damaged areas. The remaining metal foil showed numerous areas with detachments, cracks and exfoliations.

In the immediate vicinity of the dragon's neck, approximately 7 cm of the ivory inlay was missing. Fig. II.8 provides a simulation in

which the dragon's head is joined to the neck, for a clearer picture of the overall appearance of the instrument.

Based on direct observations, the results of microscopic, chemical, physical and biological analysis bulletins, the tests on the possibility of dismantling components of the instrument, the level of fragility, and as a result of discussions with expert investigators and restorers, and coordinators of my practical work, this object presents: vulgar patina; cracks, traces of functional wear, scratches, bumps, traces of paint applied later; a high level of fragility of the polychrome component – detachments, exfoliations, gaps; weakening of some joints; lack of some constitutive elements of the instrument; subsequent interventions for crude and inadequate repairs. Although most of the piece is built out of wood, for its complete restoration a complex approach from an interdisciplinary perspective was necessary, bringing together experts on wood, polychrome wood, metal, and ivory.

Carried out investigations

In order to correctly determine the state of conservation, to identify the materials used to build the instrument and to find the treatment and restoration method applied, several physicochemical and microscopic investigations were performed. For optical investigations, overview photos and macro and micro details were taken. Four samples with polychrome decoration were taken for stratigraphic analysis, and



Fig. II.4 Elements detached from the piece: frets, wax fragments, key for tightening the strings.

the fragments fixed by the resin embedding method (Araldite 2020). An Olympus SZ 60 stereo loupe with an Olympus Camedia 5MP digital camera was used. A Mic Fi Plus digital video microscope was used to take the microphotographs. Stratigraphic analyzes were performed under a Zeiss Axio Imager microscope. An Olympus SZX Microscope was also used to determine that the bone fragments taken were in fact ivory; ivory decorative elements are fixed with capillary rivets and decorated with simplified graphic lines using a paintbrush.

The analysis performed by X-ray fluorescence spectrophotometry on the metal foil of the neck and of the mandible of the Yali head determined that it was made of a gold-silver-copper alloy. The metal foil has partially decorations painted with colored varnishes, looking like a graphic simplification made with a paintbrush. The analysis made by Spectrum XRF on the white pigment for the eye decorations indicated lead white, and the analysis of the red pigment for the Yali's head decoration revealed lead red.

The optical analysis of the samples shows that the metal foil is applied on a paper support, which has a brown tint, and is then fixed to the wood with a binder (animal glue). The metal foil is partially decorated with colorful simple graphic lines made by brush. In certain areas (the sides of the dragon's head), a thin preparation of binder mixed with an inert material

(probably glue and calcium carbonate) was initially applied. The foil was laminated for protection with a layer composed of a natural resin and solvent (varnish). Due to the fluctuations of the microclimate parameters, in the context of the hygroscopicity property of the materials involved in making the piece, there were contractions and expansions of the materials, which, in case the binder properties changed, led to the loss of polychromatic adherence and partial lacuna on some surfaces.

The X-ray fluorescence spectrometry applied to a metal element, one of the 24 frets, indicated they were made of gilded brass. The same analysis applied to the ring for holding the strings (*Naga pasha*) revealed silver-plated copper, and integral silver for the five elements through which each string is connected to this ring.

Carrying out the restoration Cleaning

The restoration was carried out respecting all the component elements and the structural integrity of the work, and followed a series of steps dictated by the conservation process. Thus, the active progressive detachments from the polychrome surface imposed emergency prophylactic consolidation interventions, in order to avoid the subsequent losses of original material: the metallic film initially applied by a layer of paper



Fig. II.6 The ring for holding the strings on the edge of the large resonator, detail of damaged elements.

material, fixed to the wooden support by gluing, was now reinforced with an egg yolk emulsion. Subsequently, after the restoration process actually started, a general dusting was performed (for the removal of superficial, inadherent deposits), either by vacuuming or with the help of brushes and a textile material. The cleaning operation involved removing the layer of adherent dirt and greasy deposits using distilled water and, in some places, technical alcohol, after the solubilization test had been performed. The shellac, which was obsolete, detached, lusterless, aesthetically unsuitable, and covered over large areas with paint applied afterward, was completely removed with technical alcohol, and the added paint with thinner. The traces of putty along with the traces of wax on the neck were mechanically removed with a scalpel, and also with ethyl alcohol, using textile or cotton swabs.

Dismantling

As some elements were partially detached or broken, others oxidized or added, the partial dismantling of the instrument was necessary. The metal elements (frets, screws, the ring for holding the strings and the wires where the strings are attached at one end, the element where the



Fig. II.7 Yali dragon's head, front view.

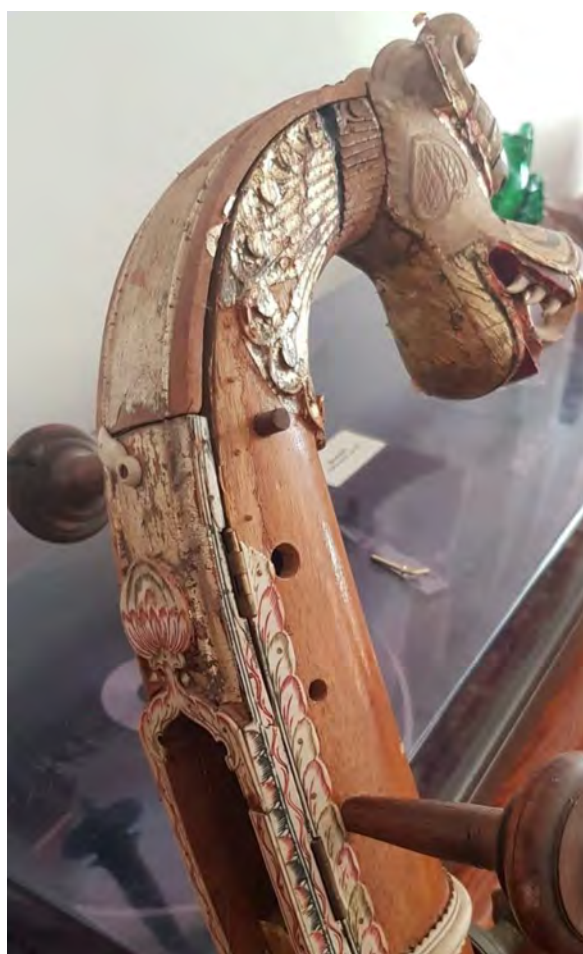


Fig. II.7 Yali dragon's head, front view.



Fig. III.1.a The fixing the crack on the large resonator with a fragment of mahogany veneer.

small resonator is attached) were subjected to a cleaning treatment by the expert in metal restoration. The oxides left in the wood where the ring for the strings was fixed were removed by repeatedly swabbing with a textile material soaked in complexone solution, subsequently neutralized with dilution of acetic acid in water.

Biocidal treatment

After having removed from the wood surface the superficial and adherent deposits, and the shellac, and after the subsequent filming interventions, the biological treatment of the wood against fungi and xylophagous insects with specific solutions was carried out.

Fixing cracks

In order to solve the crack on the lid of the large resonator, a strip of mahogany veneer was inserted, close to the color of the wood from which the lid is made. As the two parts to be joined were uneven, it was necessary to bring everything to the same level using a press held while the bone glue which soaked the veneer fragment inserted into the crack was coagulating (see Fig. III.1.a; Fig. III.1.b). The other two existing cracks, in the large resonator and in the neck, were filled with putty made from shellac and the extremely fine sawdust resulting from grinding a piece of mahogany.

The entire wood surface was burnished with a fine-grained abrasive sheet to prepare it for the color integration. However, the traces of functional wear have not been completely removed, displaying the historical patina of the piece.

Restoring the joints and filling in the missing items

As I mentioned in the description, this specimen of the Saraswati Vina was not carved out of a single piece of solid wood, as the instrument used to be made in ancient times, but by joining the three parts, with a hidden set-up. The place where the box for holding the string ends (Peg) was attached was unstuck; there was also a tear of a piece on this side. It was discovered that the tear had gone through an older repair process that failed. The glue marks were mechanically removed, the surface cleaned and sanded; the joints were redone and the broken part glued with bone glue. The dragon's head was also glued in place (Fig. III.1.c).

The missing part of the wooden bridge over which the strings pass was made and integrated, then the whole element was cleaned with a solution based on ammonia, distilled water, alcohol and a few drops of flaxseed oil, for aesthetic appearance (Fig. III.2.a; Fig. III.2.b).

The missing 10 cm ivory fragment was visibly replaced with a piece of white plastic, and the colored simplified graphics reproduced in ink, according to the original model.

The pieces of wax (a mixture of wax, carbon black and colophony) peeled off, agglomerated, coagulated and in disarray on the edge of the neck, were recovered and melted. As a large amount of wax was needed, we ordered it from a traditional Indian instrument construction and restoration workshop in London. We



Fig. III.1.b Leveling the parts of the crack on the resonator, by pressing them into place.

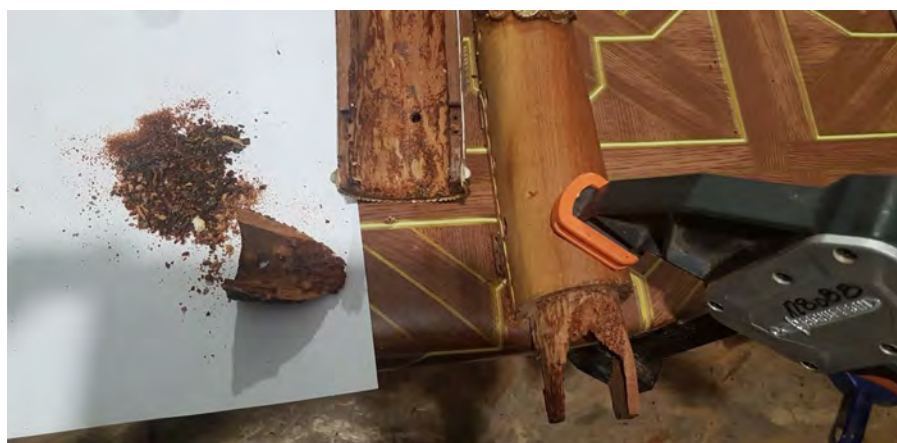


Fig. III.1.c Elements detached from the neck, detaching and discovering a hidden tear.

also ordered the 14 missing frets, the two metal elements that double the bridge, another metal bridge at the top of the neck, the small resonator, four wooden wrenches for tightening the strings and four strings, as the original ones became fragile when we wanted to install them.

The biggest challenge was to install along the neck the wax beds designed to fix the 24 frets. The wax was melted in a bain-marie, and then, in order to be able to process it in an elastic state, it was poured on a cold cement, previously cleaned and watered. The wax hardened enough that it could be gathered with a scraper, and then shaped and transformed into two rolls equal in length. In the first stage, the grooves from the wooden supports on the neck were filled and nailed in some places to maintain the subsequently applied thick layers of wax, cut with a knife on the edges and, while the softness of the product allowed, the frets were installed. Since these frets are designed in relation to the ver-

tebrae, their position mimics the placement of the vertebrae in the spinal cord, meaning more on the upper (cervical) side, then less on the lower side, all equidistant from each other. The working speed was high, considering that wax hardens quickly and can no longer withstand intervention after cooling. To finish the spaces between the frets, the wax was heated with a hot air blower and hollowed out with a scalpel, then reheated, so as to melt the surface layer and create the final film. See Fig. III.3.a; Fig. III.3.b.

The missing small resonator was replaced with one ordered from a workshop specialized in the restoration of such instruments. It is made of polyester resin reinforced with a network of fiberglass. It was chromatically integrated with mahogany stain and 10% shellac in several layers.

The metal elements were subjected to a specific treatment for the removal of oxides.



Fig. III.2.a Bridge for supporting the strings; missing item detail.

Restoration of the polychrome component of the piece

The metal sheet covering the Yali dragon's head showed lacunae, detachments and cracks along the length of the wood fiber. Initially, a temporary consolidation was carried out as an emergency intervention, to stabilize the areas with active progressive detachments, by using a solution of egg yolk as a binder. To permanently stabilize the metal foil detachments on the wooden support, fish glue was used, in solutions with various concentrations (6 – 8%).

In order to restore the overall unity of the polychrome element, the treatment of the missing areas was done based on the similarities observed in the areas where the original decoration was maintained. See Fig. IV.1; Fig. IV.2; Fig. IV.3

Protective filming of wood and fixing strings

A mixture of mahogany and cherry stain was used, several layers of 10% shellac applied subsequently, the first using an airbrush and the others a textile swab. A few drops of paraffin oil were added to the last layer of shellac for the silky sheen. A layer of wax polished several times was applied a few weeks later.

The last step in carrying out the restoration work consisted in attaching the Naga pasha ring to the edge of the large resonator and fixing the strings afterward, cf. Fig. V.



Fig. III.2.b The bridge for supporting the strings; restoration of the missing part.

Conclusions

The path to obtaining a certificate in Restoration of movable cultural property, whatever the work medium, is all the more interesting when the piece that is subject to the process of investigation and restoration is spectacular. We were fortunate to have received in our laboratory a copy of the Saraswati Vina, remarkable because of its dimensions (Fig. VI.1) and aesthetic appearance (Fig. VI.2; Fig. VI.3; Fig. VI.4), and challenging because of the difficulty of the damage it suffered. Made of different media – in addition to wood of different essences, there is metal (silver, silver copper, bronze), ivory, bone, wax and polychrome wood carved and plated – it required an interdisciplinary team of restoration specialists. For a beginner, the opportunity to work closely with experts who master such varied restoration techniques was an opportunity not only to learn a lot, but also to gain in the future the confidence to face the problems each object to be restored brings. Perhaps interweaving so many elements to



Fig. III.3.a Restoration of the wax bed on the neck.



Fig. IV.1 Dragon's head, step in the restoration.



Fig. III.3.b Restoration of the wax bed and fixing of the frets.



Fig. IV.2 Lid covering the ends of the strings, detail during the restoration.



Fig.VI.2 Saraswati Vina, Pavel Şuşară's collection – front view after restoration.

create such a favorable context for acquiring substantial knowledge was not at all accidental, considering that Saraswati is none other than the Goddess of Knowledge.

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Fig.VI.4 Saraswati Vina, Pavel Șuşară's collection – view from the large resonator after restoration

Restaurarea unui instrument tradițional indian – Saraswati Vina – o abordare interdisciplinară

Rezumat. *Saraswati Vina*, instrument tradițional indian din lemn, este o piesă de colecție din prima jumătate a secolului al XX-lea, care aparține istoricului și criticului de artă Pavel Șușară. Instrumentul a fost adus în laborator pentru a fi restaurat și prezentat la examenul de atestare pentru *Restaurare bunuri culturale mobile* – suport lemn, de către Rodica Pop. Pentru că provocările pe care le-a presupus piesa au fost de natură interdisciplinară, s-a lucrat într-o echipă coordonată de Vasile Ioniță, expert restaurare lemn, în colaborare cu dr. Loredana Axinte și conf. univ. dr. Bogdan Ungureanu – experți restaurare sculptură și pictură pe lemn, lemn policrom, și cu specialiști în restaurare metal – Victor Emanuel Grecu și Ilie Cojocaru, experți restaurare metal. Obiectul prezenta numeroase degradări din cauza uzurii sau a condițiilor nepotrivite de depozitare și manipulare, la care s-au adăugat în timp și unele intervenții de restaurare grosiere. Instrumentul a fost supus inițial unor investigații fizico-chimice, apoi restaurat integral, fără a se avea în vedere funcționalitatea instrumentului, ci doar aspectul estetic și rigurile ce țin de domeniul restaurării.

Cuvinte-cheie: *Saraswati Vina*, restaurare, instrument tradițional indian, Restaurare bunuri culturale mobile.

Restoration of a traditional indian instrument – Araswati Vina. An interdisciplinary approach

Summary. This *Saraswati Vina*, a traditional Indian wooden instrument, is a collector's item from the first half of the 20th century, owned by the art historian Pavel Șușară. The instrument was brought to the laboratory by Rodica Pop, to be restored and presented at the certification exam for Restoration of movable cultural property – wood support. Since the challenges posed by the piece were of an interdisciplinary nature, we worked in a team coordinated by Vasile Ioniță, an expert in wood restoration, in collaboration with Dr. Loredana Axinte and associate professor Dr. Bogdan Ungureanu – experts in sculpture restoration and painting on wood, polychrome wood, and with specialists in metal restoration – Victor Emanuel Grecu and Ilie Cojocaru, experts in metal restoration. The object has suffered numerous damages due to wear and tear or improper storage and handling conditions, as well as some rough restoration interventions over time. The instrument was initially subjected to physicochemical and microscopic investigations, then fully restored, without considering the functionality of the instrument, but only the aesthetic aspect and the rigors related to the field of restoration.

Keywords: *Saraswati Vina*, restoration, a traditional Indian wooden instrument, Restoration of movable cultural property.



Fig. VI.1 *Saraswati Vina*, Pavel Șușară's collection, image during the restoration; size representation.