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German reflections

Petersen Quartet

From privileged beginnings to international acclaim

Uncovering the traditions of Germany's violin factories

Triumph against the odds: violist Hartmut Lindemann

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The passion for original Chinese lacquer (far left) led to numerous attempts to imitate it. Above: English lacquered desk (1695-1700); right: 'Chinese style' varnish on an 18th-century screen; left: Watin's price list for varnishing materials



one varnishes

livings on what was called Japanning, lachinage, lac-werk or vernice. In most countries the trade and the craft were regulated: varnishers were organised in guilds; varnishing schools opened. Every court had its varnishing team and varnishing experts travelled throughout Europe. For example, Gérard and Jacques Dagly, Belgian varnishers and decorators of instruments and cabinets, successively worked for Frederick II of Prussia, directed the French Manufacture Royale des Gobelins, consulted for several Italian courts and advised Peter the Great of Russia. This fashion lasted for over a century, slowly fading at the beginning of the 19th century.

The idea of varnishing occurred to people very early in history: during the 20th century BC the Chinese were already using varnish, as were the Japanese a thousand years later. For

preservation purposes objects and even corpses were coated with local balms or oils. Later, a more scientific approach prevailed as resins were made into spirit or oil varnishes. Decorative concepts also developed.

The desire for a perfect varnish recipe constantly haunted the violin shops of Europe and, as interest in Chinese lacquer arose, traditional local varnishing practices began to be questioned. European varnishes lacked depth, durability, nuances in colour and shine, while the oriental lacquer looked beautiful.

As the fascination for varnish spread, hundreds of European instrument makers, cabinet makers, decorators and others worked to improve the quality of their varnish finishes. Professionals were already cultivating myths about varnish in order to enhance the reputation of their shops: supposedly it required amazing insight to understand

it, its ingredients came from remote parts of the world, and it would preserve a piece of furniture for eternity and give a musical instrument perfect sound). Consequently varnishing techniques, advertised but seldom truly shared, remained cloaked in mystery and secrecy. Yet while aesthetic aims and materials were similar from shop to shop, the individual talents of makers and varnishers such as 'del Gesù' and the Dagly brothers raised the level of varnishing to excellence.

The efforts of European artisans to compete with oriental excellence were hampered by the fact that importation of the Chinese lacquer as a raw material proved impossible: the varnish dried during the long journey, attempts to dissolve the hard resin failed and the trees that produced the resin would only grow in the Orient. Moreover, the manipulation of the natural resin caused a fatal skin



Christine Arveil has used 18th-century varnishing and decorating techniques on instruments including Bernard Sabatier's 1996 cobalt-blue oil-varnished viola (above) and Keith Hill's 1997 violin (right)



and lung illness in Europeans to which the Chinese were resistant. In 1690 the Medici Grand Duke Cosimo III obtained specimens of resin and oil from China and tried to identify them chemically. He had doctors working with him, including Cardinal Medici's personal physician, but the resin infected them all before they could even combine it with oil.

Filippo Buonnani, a Jesuit scientist interested in varnish, was the first to establish the actual composition of Chinese lacquer after borrowing Cosimo's samples. He wrote down his conclusions in a treatise on Chinese varnish in 1720 (*Trattato Sopra la Vernice detta Comunemente Chinese*). In the following years some Jesuit missionaries in China (interested in converting varnishers) provided similar descriptions, including a detailed one by d'Incarville (Academy of Sciences, *Mémoire sur le Vernis de la Chine*, 1772). This described the varnish as the pure resin of a latex tree grown in the Orient, which came in nuances of gold to dark amber and in different thicknesses according to the number of times a tree was harvested – the first harvest seemed

to give the ideal liquor. The resin was left in the sun to decant, then it was filtered and blended in a local oil previously cooked with arsenic, which acted as a siccative. The components were mixed together simply by stirring the lukewarm resin with a stick. This mixture was thinly brushed on to prepared wood, each coat being carefully sanded. Up to 40 coats could be applied on a wood panel.

The fact that this wonderfully simple recipe was impossible to concoct in Europe probably helped to create the myth of varnish as a deadly, mysterious substance of unequalled beauty. At that point finding a substitute became a high priority: confidence in the power of a perfect varnish was immense. Apothecaries tried, aristocrats in their leisure tried, cabinet makers and violin makers tried. At the London exhibition of 1751 a harpsichord made of papier mâché and varnished 'in the perfect Chinese style' was presented. It was given an award but the jury suggested discontinuing the technique as the wonderful varnish could not improve the instrument's total lack of sound!

The introduction of Chinese lacquer oriented the violin makers' research into varnish, even though it had unsuitable properties as far as their instruments were concerned. It required over 90% humidity in order to dry, which could harm the glued joints of the instruments through extreme wood fluctuation, and its latex components reduced the wood's resonance, thus contributing to a poor sound. Yet there was a fascination with the durability of the substance and its elasticity, so amazing that tin objects coated with more than ten layers could still be hammered and reshaped without breaking the film. Varnished wood panels which were sent flat from China were arched after their arrival in Europe.

During the 18th century many substitutes for Chinese lacquer were developed. Buonnani's treatise suggested a copal (an African resin) in linseed oil with Venice turpentine and spike oil. In 1744 the French brothers Martin took out a 20-year patent for a varnish they labelled as 'the perfect varnish in the style of Japan or China', but they never published their recipe. Most books presented it as copal cooked in oil; according to others, mastic was incorporated. In any case it proved successful. The elder Martin, Guillaume, was a carriage maker who had also cooked strong varnish for boats. The younger, Simon-Etienne, was a Parisian cabinet maker who also varnished musical instruments. References to the Martin varnish often mistake the two brothers, and in 1750 they were already capitalising on this ambiguity in order to advertise their varnish better – ideal for protecting both a boat at sea and a delicate work of art. In fact, they were using different substances (the pieces coated in the strongest varnish were probably 'cooked' in an oven-like room). In 1772 Jean Felix Watin published his own recipe for violin varnish, presented as a substitute for Chinese lacquer. It incorporated a huge variety of ingredients: sandarac, shellac, seedlac, mastic and elimi, melted in alcohol then cooked in turpentine.

Applying these varnishes took months of work. In China the bottom coats were sanded with brick powder mixed with dried blood in water or oil, while dried herbs, rags and finally the palm of the hand were used on the upper coats. French polish developed likewise. 'The 17th century was a time when painters were concentrating their energies upon the study of reflected colour. ■

Wood, marble and metal were polished as mirrors, while the glories of the ceilings were faintly doubled in the shining floors,' commented historian Joan Evans (*Pattern: a study of ornament in Western Europe 1180–1900*, OP 1931). The soft patina now cherished on stringed instruments is mostly due to age.

The importance of skill in applying varnish led to the launching of numerous legal proceedings against varnishers who failed to produce the required finish. Watin was sued three times for defects in his varnish, even though he only sold it and did not apply it himself. Meanwhile, several experts praised the quality of the finish on items supposedly varnished by him. This became so problematic that he eventually stopped selling his varnish. Similar difficulties were recorded for varnishers in London and Boston.

The colours in Chinese lacquer did not lose the sensation of depth through transparency. In their search for a substitute, European painters and cabinet makers used dyes and grinding pigments to colour their varnish (a tradition long existent in Europe). However, with the early substitutes the difficulty was not in adding colours but in subtracting them, as a device to separate shellac resin (used in alcohol varnish) from its red dye was not really available before 1770. Once a good transparent golden colour was found for stringed instruments, various pigmentations were developed, including some wild attempts at colouring in black (fashionable under Napoleon III in France in the 19th century) and green (in 18th-century England). The Dagle brothers probably found a transparent varnish (one of their harpsichords from c.1710 to this day has an absolutely white varnish without a hint of yellow in it), but their recipe was kept secret. Finally, at the end of the 18th century in the Cremonese workshops, varnishing instruments as we know it prevailed.

The arrival of Chinese lacquer on the European market confronted varnishers with many technical challenges. However, their desire to achieve a high standard of varnish cannot explain all the options they explored in the process. They were working in a period of strong cultural development and their customers sometimes led the research personally. The 18th-century encyclopedia mania and belief that everything could be inventoried and therefore explained led to the exploration of all possible varnishes.



Left: harpsichord by David Sutherland with 18th-century-inspired gold-leaf decoration by Christine Arveil. Top: set of retouch and decoration brushes from the 19th century

Accordingly, books on varnish extensively listed and described all related subjects (including all existing resins, pigments and cooking techniques), even if the author had a limited competency.

Three new aesthetic concepts accompanied the varnish quest: *clarté* (luminosity, enlightenment), *équilibre* (balance) and *fini* (quality of the finish). Such notions were both philosophical and practical. They were listed in the requirements of guilds, whose delegates toured workshops, giving or withdrawing authorisation for selling a varnish as they pleased. In France these delegates even burned works that failed to meet guild standards. However, the motivation behind this was based on competition for the market and power, not philosophy.

The long-lasting fashion for varnish induced a stream of literature on the subject. These attractive old books easily mislead the reader. According to the publishing practices of the time, few of the books contained original material. They often carelessly copied each other, sometimes from one language to another. One famous English book is a translation of a Netherlands edition, which was inspired by a French book, itself inherited from an Italian report to

an academy. In the 18th century a good way to be commissioned for varnish was to write a book first.

Another misleading feature of these books was that the language describing the product was intended to be as appealing and beautiful as the product itself; accuracy of the text was considered less important than its elegance. Truth wandered around, embracing moral statements and self-promotion. Watin even falsely claimed in his books that he owned a Paris varnish factory as proof of his authority and the quality of his varnish.

Of all the professions concerned with varnish, violin making is probably the one that has remained closest to 18th-century attitudes. Makers then were strongly motivated by the challenge of imitating Chinese lacquer; now the aim is to replicate Cremonese varnish. There remains curiosity and excitement about varnish comparable to the time when Europeans first encountered oriental lacquer remains, despite, or perhaps because of, the obstinate secrecy that surrounds the art. A drop of the substance would varnish a violin, but as Flaubert wrote in 1852: 'each atom of it contains a thought' ('Pas un atome de matière qui ne contienne la pensée'). □