

A cautionary tale for our times

When a cello suffered a calamitous hand sanitiser accident, it looked irreparable at first sight. **John Simmers** explains how he restored it to the way it was pre-Covid



How the cello looked on its arrival in the workshop

Last October I received a text message from a friend that contained a rather disturbing photo of a cello with badly damaged varnish. My initial response to the damage I saw was 'Whoa – I don't want anything to do with sorting that out!' As it turned out, I knew the cello and its owner quite well and for a number of reasons I couldn't help becoming involved. It transpired that during a rehearsal, while the cello was sitting on the floor, a fellow musician had unknowingly bumped a bottle of hand sanitiser on a nearby table. Somehow the sanitiser splattered on to the front of the cello, making a large area of the lower bout resemble something from a crime scene. When the cellist returned minutes later, he noticed all the

white marks on the cello and realised what had happened.

When I saw this early 20th-century cello for the first time, I could see its beautiful, thick and finely crackled orange varnish had been heavily French-polished over the years. The polish had moved with the underlying varnish over time and presented

THE ONE THING I DIDN'T WANT TO DO WAS FRENCH-POLISH OVER THE WHOLE THING

very well. Although I am not a fan of French-polishing instruments, on this cello it had helped preserve the original varnish underneath. The strong alcohol concentration in the sanitiser very quickly dissolved the layer of polish, leaving a hard transition from the thick polish to original varnish and an exaggerated crackled texture in the original film. The good news was that the precious original varnish was mostly undamaged, so the problem was mainly cosmetic.

The most visual issue was the blanching of the original varnish. Blanching is a phenomenon that appears when excessive environmental moisture becomes securely incorporated into varnish, interfering with the direct transmission of light to and from the underlying wood. In such cases, light

no longer travels smoothly through the varnish and back to our eyes, but is instead refracted by pockets of moisture that interrupt the alignment of varnish molecules. The result is that the varnish appears to be less bright and more chalky than it actually is. In this case the moisture came from the aqueous ingredients in the sanitiser.

My first job was to clean the whole cello front so I could see what I had to work with, as it had years of rosin and dust deposited on it. I was concerned about any residue from the hand sanitiser being left on the varnish, so I set about making sure there was nothing left to get trapped under my retouching. I didn't know what was in the sanitiser besides the alcohol, so in an effort to cover all my bases, I used a number of different hydrocarbon solvents and also Vulpex liquid soap diluted in demineralised water. I used cotton wool and tested carefully as I went. I was particularly careful around the damaged areas as I didn't want to disturb what was left.

Then I experimented on one of the small white spots to see if I could make the varnish transparent again. The application of an appropriate solvent can often reform blanching by redissolving the varnish, which frees trapped moisture and allows the varnish film to dry transparently again. To my great relief, I tried brushing very small amount of alcohol on to the blanched varnish and it worked – but I had to be very careful. Too much and the underlying varnish would dissolve and the texture was lost. Too little and the process began but stopped before the varnish was transformed, trapping the white areas underneath the redissolved varnish.

Once all of the damaged areas were transparent again, I wanted to isolate the original varnish from my newly applied filler varnish. This would reduce the chances of the blanching recurring and a reaction between old and new varnishes. I chose to use my usual spirit retouching varnish, but quite thinned out and



Varnish retouching can be a painstaking, laborious process

applied that into the craters with a small retouching brush.

Then things got serious. To fill and level the depressed areas that were eaten away by the alcohol sanitiser, while retaining and also building texture without adding any thickness to the surrounding varnish was going to be tricky. The options I considered to fill the missing layers of polish were spirit varnish, lean oil varnish and Deft. All of these had pros and cons. The one thing I didn't want to do was French-polish over the whole thing and eliminate all the lovely texture.

I decided to use gloss Deft, a nitrocellulose varnish which I am sure many restorers are familiar with. It is fast-drying and the resulting varnish layer can be scraped and manipulated. Instead of applying thick layers, I thinned it out to a watery consistency with acetone. Although this meant that I required many more layers of Deft to build up the area (I would guess at least 20), it achieved a few things; I was able to use a small brush to apply it quite evenly and exactly where I wanted it; once the Deft had dried, it pulled down replicating the texture of the varnish underneath instead of filling that texture; the capillary action pulled the thinned Deft into the sharp corners of the depressions, so I was able to avoid getting



The completed varnish restoration

it on the surrounding varnish. I scraped the Deft a number of times during the process, to see how the levels were going and to remove any excess that would delay the drying time. The many small spots were tedious but not too hard, but the three long, wide runs across the whole bout were difficult. I ended up making a scraper just wider than the filled areas with the slightest curve in the blade. By scraping across the grain, it bridged the area and followed the corduroy texture of the soft grains.

Once I was happy, I lightly worked the filled areas with a small piece of very fine flexible abrasive pad, being careful not to touch the surrounding area or remove the texture of the filler. That was followed by thinly brushing some spirit varnish with a high sandarac content in the direction of the grain, to coat the Deft and blend the spots and runs into the surrounding varnish. A quick wipe over with a polishing cloth blended it all together without diminishing the texture.

The obvious lesson to take away from this is that alcohol-based hand sanitiser has no place being anywhere near musical instruments. A piano tuner friend told me he had to repair the polish on numerous pianos last year. If you need to handle other people's instruments, handwashing is the preferred method of sanitising your hands before and afterwards. ●