

Don't Try This at Home

Turpentine, garlic and warm beer were all ingredients in instrument cleaners of the past. Are modern cleaners any better? Padraig ó Dubhlaoidh examines a far from spotless history

My dictionary defines 'accessory' in two ways: firstly, as 'an additional or extra thing – contributing or aiding in a minor way – dispensable' and secondly, as one who 'incites or assists another to commit a crime'. This is perhaps a useful starting point for an examination of instrument cleaners. Are they just dispensable extras, contributing in a small way to our instrument's upkeep, or are they more insidiously our partners in the crime of damaging our precious instruments?

The patent instrument cleaner is certainly not just a thing of the past, and although their labels may suggest that Ye Olde Instrumente Cleanser comes from an ancient traditional recipe, the vigorous market for these products could not have been sustained at any other time than the present era, with its obsession with cleanliness and hygiene, despite the fact that modern forms of pollution tend not to be the larger particulates of soot, grease, mud and crumbling buildings of the past. The modern equivalents are more dangerous but less tangible materials, such as diesel particulates, agrochemical pollution, ozone-depleting gases, microwaves and other electromagnetic radiation, as well as microscopic biological contaminants. Dust, of course, hasn't changed. Earlier societies, of necessity, placed less emphasis on cleanliness. There would have been plenty of dirt about, mainly large particulates, and without efficient means of dust collection, there would have been quite a layer on undisturbed surfaces, although this was much less noticeable by candlelight. In *Restoration of Musical Instruments*, Charles Beare gave an insight into historic standards of violin hygiene by comparing the current appearance of certain violins with their illustrations in a catalogue of 1872: 'The surfaces of the instruments look dull when compared to the customary shine of modern times, and it was normal to find a build-up of dirt and rosin in a dark mass between the bridge and the fingerboard.'

You might wonder whether or not the customers of Stradivari carried small vials of instrument cleaner in their cases. Luckily, we have some clues to this question. Beginning in the second decade of the 18th century, a vast number of manuscripts and recipe books on varnish making and related matters were published, not for professionals, but for amateurs to read as a pastime. One such book was published in Cremona in 1747 and is preserved in the Trivulziana Library in Milan as *Varnishes and Very Curious Secrets*. In this book, which is inclusive enough to include a recipe to 'soften horns to be put into a mould', I feel sure that an instrument cleaner would have been included, had such existed. The nearest are a number of recipes for cleaning paintings:

'To clean paintings. Take ash, clear water or urine or white wine and apply to the paintings. Or whisk albumen in urine and rub over the paintings. They will look like new due to the brightness of the albumen.'

Another example recommends using different materials when cleaning:

‘Secret for cleaning paintings. First of all, wash your paintings with spring water using a fine sponge. Once dry, take fat which must not be salty, i.e. pork fat, and grease them, rubbing well to make fat penetrate. Protect from dust.’

It is doubtful that the violin cases of the Medicis carried small bottles of urine or pork fat, but such ingredients were not unusual in the early history of the care of paintings, which is the nearest discipline with recorded data on cleaning. Early cleaning methods seemed to consist of trying the nearest material at hand, often bodily fluids. Other materials included wine, ammoniated solutions, solutions of potash or lye, sliced potatoes, onions and garlic. Primitive solvents included blood, bile fluids, saliva, warm milk, hot turpentine and warm beer. Physical methods included stroking the dirt off with a foxtail, using carpenter’s glue as one would use leg wax, and scouring with sand or ashes. One method of Pythonesque eccentricity involved exposing the artwork to be cleaned to the moon, ‘whose rays revive the colours no less than the Sun’.

It would be safe to assume then that 18th-century musicians did not carry instrument cleaners in their cases. However, in the late 19th and 20th centuries, industrial chemical research provided a more scientific basis for dealing with cleaning problems, and the petrochemical industry increased our arsenal of solvents. This was an era when lethally radioactive materials were unwittingly used for public entertainment, while at the same time a theory of conservation was beginning to form based on the -scientific understanding of the nature of materials and the forces of decay.

A popular book of this period, also with secrets in the title, was Henley’s Twentieth-century Formulas, Processes and Trade Secrets. This book’s recipes for cleaning varnished surfaces range from the imminently lethal to the insidiously harmful. One recipe consists of linseed oil boiled with additions of lead acetate, litharge and minium. Lead acetate is now known to be carcinogenic and to cause mutation, while litharge is lead monoxide, a skin irritant and a possible carcinogen. Mutation data has been reported for litharge, and incredibly it may ignite spontaneously when mixed with linseed oil. Minium is red lead oxide, another toxic substance that is an oxidising agent. It can ignite, combust and explode on contact with various materials. It is also used to decrease the explosion temperature of TNT. The purpose of these dangerous additives is to turn linseed oil into a ‘drying oil’, that is, to speed up its rate of polymerisation, the end result of which is linoxyn, the basis of linoleum. Many violin cleaners and polishes from this period on contain similar products that over time cause a physical build-up on the violin, often trapping dirt within and beneath it and strongly resisting removal.

This brings us to the present day, in which a great deal of effort goes into protecting ourselves from unseen and unidentified germs and pollution by using chemicals about which we often know nothing. We are still dealing with secrets, yet we are more reassured by brand names than we are disturbed by the lack of information on the ingredients that they use. Given that effective cleaning is dependant on a number of factors such as the differential solubility of the dirt and the varnish, the nature and age of the dirt, the nature and condition of the surface, the skill of the cleaner, the materials used for cleaning and the suitability of the environment, it would seem remarkable that cleaner

manufacturers have discovered not one but many formulations that take all these factors into account in order to provide effective cleaning with no risk of damage to any of these surfaces. In truth, they could not possibly have done so.

Based on average data, manufacturers have combined a number of solvents for various types of dirt with one or more oils in order to restrain the action of the solvents and to leave behind a sheen of oil imparting a synthetic gloss, even to varnishes on which such a gloss is inappropriate. If this oil is non-drying, then it will attract dust, becoming matt and requiring further coats, which can migrate beneath varnishes with crazed surfaces, and enter open cracks, rendering them unglueable. If the oil is a drying or polymerising oil, then it eventually forms a skin over the instrument. Few of these cleaners have a use-by date, so that inevitably the solvents evaporate, leaving the oils to be dispensed and smeared over our instruments, to trap dust or to solidify, according to their nature. Many of these modern cleaners are quite harmless because they are ineffective. For this we must be grateful, for if they worked they would be truly dangerous.

So, what are we to do if we wish to keep our instruments looking good? A heavily soiled instrument still requires professional examination and attention, but once clean the best cleaning accessory to include in your case is a microfibre cloth. Once the expensive tool of professional conservators, they are now widely and cheaply available. This is a man-made material spun from a combination of polyester and polyamide, shrunk and processed to 1/100th the diameter of a human hair. Being spun, the fibres have a slight electrostatic charge that attracts dust, which then becomes held in the wedge-like fibres which are highly absorbent and can hold up to eight times their own weight in dirt and liquid. Because these cloths are so effective, no additional chemicals are required. Soaking the cloth in boiling water releases the dirt, making them reusable for hundreds of washings.

Despite such advances, some still cling to more primitive methods. Recently, in an internet chatroom, someone recommended their grandparents' home-made instrument cleaner: Vaseline and toothpaste. Please don't try this at home.