

MICROBIOLOGICAL ISSUES IN RECORDER PLAYING AND MANTAINANCE

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Not only "airs and graces"

Woodwind instruments are blown by their own nature with expired air from players' lungs.

This usually keeps their walls and bore far warmer than the average room temperature .

Breath also provides a remarkable amount of humidity. The mouth itself is a multi-functional cavity, which so often contains tiny bits of food and is bathed with saliva, a fluid rich in proteins, mucin and traces of many other substances which can enhance bacterial growth. And indeed one can find a huge variety of germs even in the healthiest oral cavities, either as resident populations or as occasional guests. Small amounts of saliva do find their way into the instruments while playing and these droplets also carry all manners of germs from the mouth, together with many growth-promoting nutrients.

Obviously, germs find once more within the instrument's bore most of the favourable conditions of the oral cavity and may thus thrive by feeding from nutrients in sprayed saliva and possibly also from the instrument's wood, whenever feasible.

A number of chemicals are often soaked or painted into the wood's grain to discourage bacterial growth. Yet even the best of wood treatments won't last forever, and such measures are quite helpless in the long run unless proper care and caution are exerted by the player, not to mention a reasonable amount of oral hygiene

Fighting moulds

In addition to bacteria there also moulds, which are in fact tiny one-cell fungi, and are found both in the mouth, and almost anywhere else in the air. Many of these, related to the Penicilli are not particularly dangerous for human health and their damages are therefore restricted to instruments which may become very unpleasant to play, as a result of their action. (Fig. 1)

Some authors believe that eating habits of single musicians can also play an important role, with a particular attention for the enthusiasts

Fig. 1



of fermented " Blue " cheeses (e.g. Gorgonzola, Stilton and Roquefort), which seems reasonable, as such cheeses are in fact produced using moulds from the Penicillum genus.

Other moulds, belonging to the Aspergillum kind are more serious health risks, as they produce a group of substances known as aflatoxins which may damage the liver and are also know to be carcinogenic.

Glass, plastic and metal instruments are relatively simple to clean up and to disinfect. Wooden ones are more problematic and the blocks of recorders are at the same time the most critical parts for tone production and the most exposed to moulds' contamination. In ordinary cases it is not difficult to get rid of moulds, taking apart recorders and washing the various portions of the windway with a weak solution of Sodium Hypochlorite (eg. Milton or Amuchina, as a diluted 5% solution in distilled water). In serious cases moulds often reappear after a short time and may become a major nuisance for musicians and recorder makers alike... These situations are more often seen in humid climates (I am living myself in the damp river Po valley...).

In these cases repeated block removals often become impractical and are also potentially dangerous for the recorder head's integrity. Sodium Hypochlorite itself, which is also a strong oxidizing agent, can in time damage woods and it is arguably less effective if the moulds have already penetrated into the wood's

grain.

A possible help for such cases is a Thymol solution in Ethyl Alcohol, with the following formula:

Thymol (crystals)..... three (3) grams
Ethyl Alcohol 95%.....one hundred (100) grams

Stir thoroughly and store in a sealed dark glass container.

[All the above substances must be pure chemicals of pharmaceutical grade. As for Ethyl Alcohol NEVER use Methylated Spirits!!!]

This solution can be prepared by any dispensing chemist and is easy and economical in use.

Procedure:

After block's removal, the windway, the block itself and any other affected recorder's part, are thoroughly washed with a weak Sodium Hypochlorite solution (see above) and then carefully rinsed in copious amounts of distilled water. Pieces are then placed on a clean white cotton rag and left to dry for several hours. The mould-infected portions are then painted with small amounts of the above Thymol solution and again left to dry for a few more hours. The recorder parts can now be safely re-assembled.

A slight thyme taste will be rather clearly perceivable for many weeks after the treatment. This is due to the fact that Thymol is retained within the wood's grain, and being almost insoluble in water, is slowly released through sublimation, thus continuing with its disinfecting action for a long time, even acting at some distance from the Thymol-treated areas.

For stubborn cases, a few more drops of the Thymol solution can occasionally be applied into the affected recorder's windway, by means of micropipettes (Fig. 2).

These are small instruments, used by dentists and chemists to dispense

