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Bamberg Symphony Orchestra: Scientists measure aerosol emissions

Scientists at the Bamberg Symphony Orchestra use air currents to measure how many aerosols emit a trombone, clarinet or horn. The suspended matter is considered to be particularly risky, especially in times of corona.



As of today (05.05.2020), the Bamberg Symphony Orchestra will be examining how much aerosols their wood and brass instruments separate when playing. Instruments that are blown into are considered to be risky in the wake of the corona crisis. If a player suffers from a corona infection, they could spread the

virus around them in the air they breathe .

Three to twelve meters away

That is why there are currently recommendations that brass players should play three to twelve meters apart to maintain protection against infection .



"However, we believe that playing a clarinet or a horn, for example, hardly releases aerosols because the air flow in the instrument is slowed down where the sounds are generated," said Marcus Axt, director of the Bamberg Symphony Orchestra.

Visible air flows through fog

For this reason, experts from an Erlangen-based company for fluid mechanics were commissioned to measure the air flows using sensors that escape from an instrument while playing. They were also made visible with artificial fog. The experiment was observed by two scientists from the Freiburg Institute for Musicians' Medicine, who have so far recommended a distance of three to five meters for wind instruments.

Breathing air movement hardly measurable

Initial investigations revealed hardly any measurable breathing air movements with woodwind and brass players. Neither on the opening flaps of a bassoon nor on the bell of a trumpet were there any turbulences in the artificial fog. If, on the other hand, you were blown or coughed directly and without an instrument, there was severe turbulence. Professor Dr. med. Bernhard Richter from the Freiburg Institute for Musicians' Medicine commented on the first examinations:



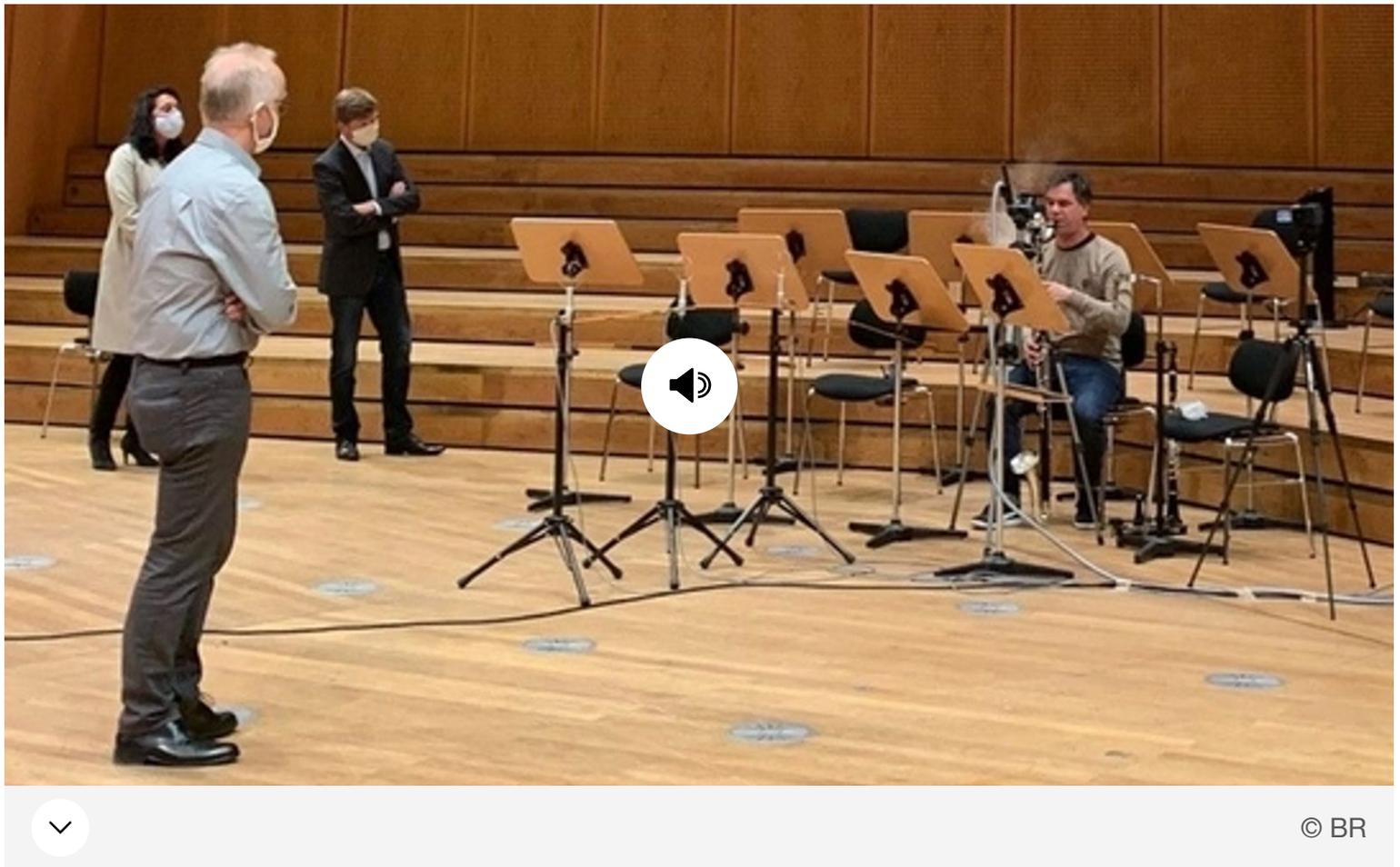
"This confirms our expectations and makes us confident about the future of making music in public." Prof. Bernhard Richter, Freiburg Institute for Musicians Medicine.

After the measurements in the concert hall in Bamberg, further tests are to be carried out in the laboratory. The results will then be presented to virologists in Berlin and Munich, who will then formulate policy recommendations for action, according to the plan of the director Marcus Axt.

Music without danger

The aim of the Bamberg Symphony Orchestra and around 130 other professional orchestras in Germany is to be able to play concerts again as soon as possible without endangering the health of the musicians

and the public.



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