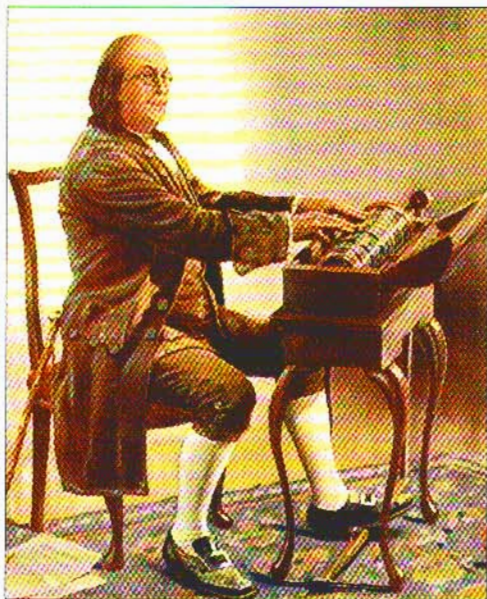


## The Glass Harmonica

MOST OF OUR MUSICAL instruments have long histories. The piano evolved from the harpsichord in the early 18th century. The violin dates to the 16th century and is derived from earlier fiddles of the 13th century. But not all musical inventions survived. The glass harmonica enjoyed an impressive popularity in the 18th century and then virtually disappeared — despite the fact that some 400 pieces were written specifically for the instrument.

The glass harmonica evolved from the simple observation that if you wet your finger and run it along the rim of a partially filled wine glass you'll get a haunting musical note whose pitch depends on how much liquid is in the glass. In 1743, the Irishman Richard Puckeridge thought of placing a series of glasses on a table, each with a different amount of liquid, so one could play a musical tune. Such an arrangement is extremely awkward and



severely limits what one can do. Nonetheless, noted musicians like Gluck and Delaval played the instrument, which was known as an angelic organ, musical glasses or seraphim.

American statesman and inventor Benjamin Franklin attended a concert performance by Delaval in London where the angelic organ was played. Franklin was captivated by the sound and set about improving the instrument. By 1762 he was writing to Giambattista Beccaria in Turin of his new invention, the armonica or glass harmonica. Franklin had a series of 37 glass bowls of various diameters made by a glassblower. This number covers three full octaves with all the half steps. The bowls had a hole in the center of the bottom. They were mounted horizontally on a metal spindle like a row of chickens on a spit. To save space, they were nested but were not allowed to touch one another. The rod was connect-

ed to a foot pedal system so all of the glasses could be rotated simultaneously. The musician simply wetted his or her fingers and touched the desired glasses. In this way complex chords could be played.

The instrument quickly became very popular, winning praise from (Thomas) Jefferson, Goethe, Paganini, Mozart, Beethoven, Donizetti, (Richard) Strauss, and Saint-Saëns, among many. The last five wrote pieces specifically for the glass harmonica. Mozart's last work of chamber music, Adagio and Rondo, was written for the instrument. Franklin is said to have remarked "Of all my inventions, the glass armonica has given me the greatest personal satisfaction." But by the early 19th century the glass harmonica had slipped into obscurity.

Why did it disappear? One explanation is that the soft sound of the instrument was not compatible with the volume of a modern orchestra. Another is that the eerie sound of the instrument aroused passionate feelings both favorable and unfavorable. Thus, while Jefferson called the armonica "the greatest gift offered

to the musical world of this century" and Paganini referred to its "celestial voice", J.M. Roger wrote that its sound "plunges us into dejection" and "the strongest man could not hear it for an hour without fainting". Claims arose that listening to the armonica caused nervous problems, early termination of pregnancy, convulsions and madness. It is true that virtuoso Marianne Davies, a relative of Franklin, performed on the glass harmonica and ended up in a mental institution. Police in one German town banned the instrument after a child died during a concert performance. These incidents contributed to the apparent hysteria. A third explanation is that the romanticism of making music by rubbing glasses was diminished by the mechanization of the glass harmonica. Perhaps in the end the novelty of the strange sounds wore off and interest dissipated.

Since the 1990s, the glass harmonica has been making a comeback. You can listen to samples of music played on the instrument at [www.finkenbeiner.com/soundsample.htm](http://www.finkenbeiner.com/soundsample.htm).

—JOHN M. HOENIG

