Breathing with delayed feedback

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We studied how breathing in humans can be affected by the application of the delayed feedback in the form of the sound and light flashes occurring some τ seconds after the previous breathing cycle started. We recorded breathing patterns for a wide range of the values of τ in several human volunteers of various ages.

We observed phenomena which were consistent with those occurring in mathematical models with delayed feedback, such as slowing down of the process of breathing and chaotisation of breathing patterns.