1038-46-286   **Claus M Koestler*** (`koestler@uiuc.edu`), Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 West Green Street, Urbana, IL 61801-2975. *Noncommutative independence from the braid group* $\mathbb{B}_\infty$.

We introduce 'braidability' as a new symmetry for (infinite) sequences of noncommutative random variables related to representations of the braid group $\mathbb{B}_\infty$. This provides an extension of the distributional symmetry 'exchangeability' which is tied to the symmetric group $\mathbb{S}_\infty$. Our key result is that braidability implies spreadability and thus conditional (order) independence, according to the noncommutative extended de Finetti theorem recently proven by the speaker. This endows the braid groups $\mathbb{B}_n$ with a new intrinsic (quantum) probabilistic interpretation. We underline this interpretation by a braided extension of the Hewitt-Savage Zero-One Law and results on certain subfactor inclusions for the braid group von Neumann algebra $L(\mathbb{B}_\infty)$. This is joint work with Rolf Gohm. (Received February 12, 2008)