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Cloning, Broadcasting and the de Finetti theorem in Generalized Probablistic Theories MATTHEW LEIFER, University of Waterloo/Perimeter Institute, HOWARD BARNUM, Los Alamos National Laboratory, JONATHAN BARRETT, Perimeter Institute, ALEXANDER WILCE, Susquehana University — We give a lightning overview of a framework for generalized probablistic theories, proposed by Barrett, that includes classical probability and quantum theory as special cases. The framework also includes theories that support "superquantum" correlations, which violate Bell inequalities to a larger extent than quantum theory whilst still not allowing signalling. In recent years, many similarities between quantum entanglement/nonlocality and "superquantum" correlations have been found by researchers studying quantum information and foundations. These can be seen to emerge from the common structure of all theories in Barrett's framework. In particular, some results from quantum information that can be generalized to all theories in the framework are described, including versions of the no-cloning theorem, the no-broadcasting theorem and the de Finetti theorem.

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