Title:	Contextuality in a Deterministic Quantum Theory
Authors:	Arora, Atul Singh (/jspui/browse?type=author&value=Arora%2C+Atul+Singh)
Keywords:	Physics Quantum Theory Quantum Mechanics Bohmian Mechanics
Issue Date:	3-Aug-2016
Publisher:	IISER-M
Abstract:	The Copenhagen Interpretation of Quantum Mechanics (QM) asserts that the wavefunction is the most complete description, which entails that there is an inherent fuzziness in our description of nature. There exists a completion of QM, known as Bohmian Mechanics (BM), which replaces this fuzziness with precision, and re-introduces notions of physical trajectories. Various interesting questions arise, solely by the existence of such a description; doesn't it contradict the uncertainty principle, for instance. Most of these questions were found to have been addressed satisfactorily in the literature. There was, however, one question, whose answer has become the subject of the thesis; that of the paradoxical co-existence of contextuality and BM. In a theory that can predict the value of operators, the value an operator takes, must depend on the state of the system (including hidden variables). Contextuality arguments show that the value an operator takes, must also depend on the complete set of compatible operators, to be consistent with QM. BM being deterministic, is at complete odds with this notion. After various attempts we were able to show, that the notion of contextuality is in fact not necessary. This was achieved by identifying another 'classical property' and constructing a non-contextual toy-model, serving as a counter-example to the impossibility proof. The toy model has been generalized to a discrete but arbitrarily sized Hilbert space, consistent with all predictions of QM. Implications of violation of this 'classical property' have been discussed, in particular, to the notion of non-locality.
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