

Quantum Gravity Via Expansion–Contraction 48.0: Causation and Disproof of Von Neumann Uniqueness

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I'll have to ignore some graffiti artists from France, Algeria, and Russia on the last few Sections to get to the next topics: Causation and disproof of Von Neumann Uniqueness in Hyperbolic Quantum Mechanics.

The author of one of the best papers is Gavriel Segre, who obtained his Ph.D. from U. di Pavia/Pavia in 2004. He has 18 papers in both Front for the Mathematics ArXiv and arXiv dating from before 2004 (1999 in fact) through 2006. As of 2005 he was in U. Varje Sweden, where he was also in 2006, but I don't know whether he is visiting or moved there. While there, he has coauthored with Andrei Khrennikov of U. Varje.

The first relevant paper is "The multihistory approach to time–travel paradoxes of general relativity: mathematical analysis of a toy model," math–ph/0610085, 8 Nov 2006, 28 pages, and the second relevant paper with Khrennikov as first author is math–ph/0511044 of 2005 which proves that Von Neumann uniqueness fails for Hyperbolic Quantum Mechanics.

The first paper is remarkable for its direct analysis of Causation in which he basically agrees with Probable Influence/Causation (PI) and Birkhoff Causation (Causation contained in the derivative in differential equations) without explicitly referring to either of these names. Causation according to him is a relationship between events across time in his formulation and he distinguishes between Cause and Effect, with Causes earlier (especially Initial Values) or implicitly simultaneous and Effects later (predicted values of the involved quantity) or implicitly simultaneous. The context is typically (partial) differential equations.

Segre appeals to the Cauchy–Kowalewski theorem for justification of the above, studies both Hausdorff and Non–Hausdorff scenarios (look up Hausdorff as a keyword on the internet or under Topology), and relates his theory to that of Matt Visser who is one of the biggest and smartest Nonconformists in the world (in Australia or New Zealand to my

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recollection). Segre's paper is arguably one of the most logically, theoretically, and empirically organized papers that can be found on the internet.

Segre puts in a disclaimer in his first paper to not want to destroy QM