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The totalitarian principle explains quantum correlations

Wheeler conjectured that the laws of physics follow from an ultimate law which cannot be itself a law of physics. Hence the expression "law without law." In elementary-particle physics, Gell-Mann observed that any process which is not forbidden by a conservation law actually does take place. This is called "Gell-Mann's totalitarian principle." A long-standing problem in physics is what is the property of nature that singles out the set of quantum correlations for each measurement scenario. Here we show that the "no-law/totalitarian principle," stating that nature lacks of laws governing the outcomes of some experiments and, as a consequence, every outcome probability distribution that is not inconsistent must take place as a result of some reproducible experimental procedure, is enough to single out the set of quantum correlations for any Bell and contextuality scenario.