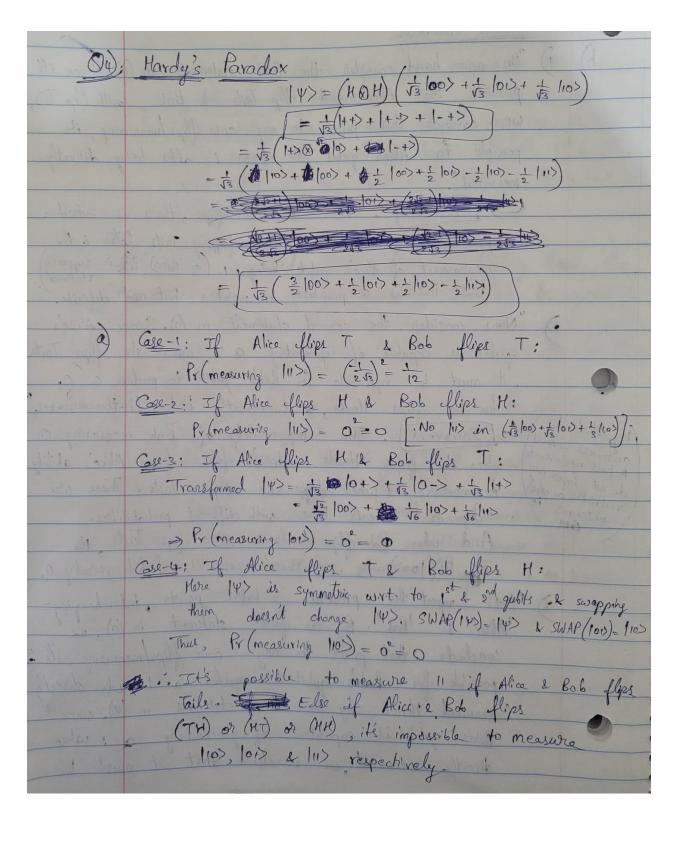
Collaborators : None

Sources: Lecture Notes



Lucien's statements 1) "On one hard, consider the first statement in (a). Since its possible that Alice will flip Tails & Bob will flip Tails, we conclude that prior to any coin flips/measuring, it's possible for Alice's qubit to register 1 after being directly measured". (Socrect). Prior to coin flips, there is indeed a possibility of both Aira & Bob eflipping Tails later & the measurement of Alice's qubit being 1. (2: R(h1)= its supporting But this is a possibility in isolation but not definite. "Now consider the second statement in (a). Since Alice's qubit its capable of generating a 1 when she flips Tails , it must be impossible for Bob's qubit to produce a 0. when he eflips Heads, & consequently Hadamard's-then-measures. Hypotherical GIIncorrect. The impossibility of Bob measuring of al measurement Actual measurement when he ellips Heads doesn't offlow from Alice's ability Le not imper the to measure I when ships she flips Tails. These are outcomes OM independent events here with different probabilities. And when Bob flips heads & Alice flips Tails, the Pr(100)=3. > There's possibility of Bob generaling O. "Abae' & 'Bob! By the first statement in (a), we conclude that prior to any coin flips/measuring, its.
possible for Bob's qubit to register a 1 when directly
measured. Hence by the third statement in (a), since Bob's qubit is capable of generating a when directly measured, we conclude that it must be

impossible for Alice's qubit to produce a 0 when She Kadamards - then - measures. DITOCORRECT. The same flowed reasoning in 2nd bullet point is applicable here. If both 1st 2 2nd bullet points are, only then this will be true, but and bulltpoint is incorrect. "We've concluded that in case of flipping Heads, for both Alice & Bob It's impossible for them to register a O when they Hadamard-2-measure, i.e., they must both register at in this case. But this contradicts the fourth statement in (a),". G[Incorrect]. This misinterprets the effect of Hademard transformation & the entargled state. The state's structure ensures that it is indeed impossible to both measure 1,1 when both flips Heads & apply Hadenard getes Lucien's conclusion is based on an incorrect assumption that previous measurement possibilities impose strict deterministe constraits on future measurements. This is an incorrect assumption.