

$$| \rangle \rangle_{Y} = \frac{\sqrt{2}}{2} | \rangle_{Y} + \frac{3i}{4} | \langle \rangle_{Y} + \frac{\sqrt{3}}{2} | \langle \rangle_{Y}$$

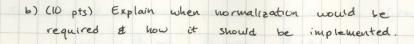
a) (10 pts) Which of the following LQs in the operator space ME - You are already normalized?

i.
$$\hat{L}_{M\to Y} \longrightarrow \begin{pmatrix} \frac{4}{\sqrt{29}} & 0 & 0 \\ 0 & \frac{4}{\sqrt{29}} & 0 \\ 0 & 0 & \frac{4}{\sqrt{29}} \end{pmatrix}$$

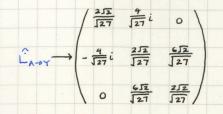
$$ii. \quad \hat{Q}_{M\rightarrow Y} \longrightarrow \begin{pmatrix} 2i & 3 & 0 \\ 0 & 4i & 3 \\ 3 & 0 & 3i \end{pmatrix}$$

$$(ii. \quad \stackrel{\stackrel{?}{k}_{M \to Y}}{} \to \begin{pmatrix} \frac{12}{3J3} & -\frac{2}{3J3}i & 0 \\ \frac{2}{3J3}i & -\frac{4}{3J3} & \frac{2}{3}i \\ 0 & -\frac{2}{3}i & \frac{2}{3J3} \end{pmatrix}$$

2. (cont.)



3. Consider two observers, ALICE & BOB, whose strong-L LQs in the \rightarrow YOU operator space are given by



Use the same YOU state given in problem 2.

a) (5 pts) What is the probability of ALICE measuring YOU in the state LOVES ME through strong - L, before BOB measures YOU?



d) (5 pts) What is the probability of BOB measuring YOU in the state LOVES ME through strong - L, after ALICE measures YOU through strong - L?

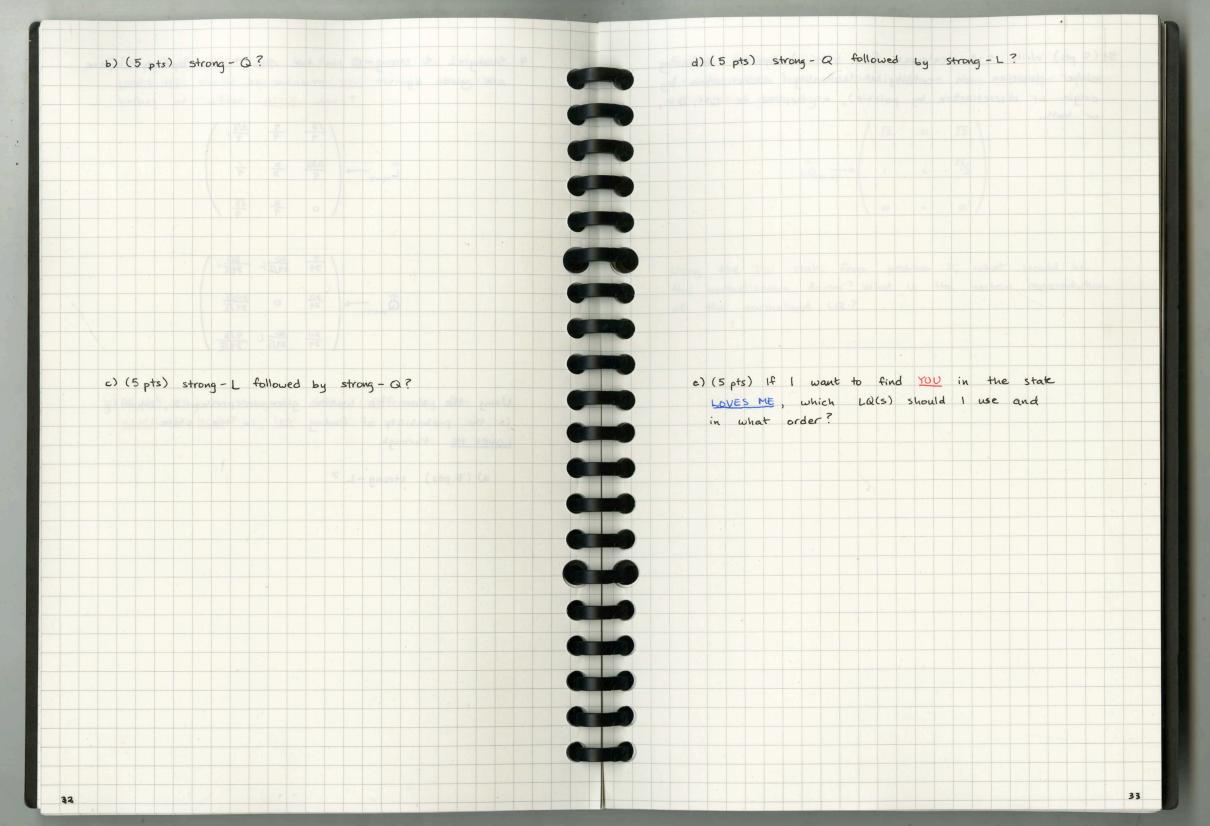
e) (5 pts) if Auct wants to find You in the state LOVES ME, should she measure You through strong-L before or after BOB does?



4. Strong-L & strong-Q in the $ME \rightarrow YOU$ operator space are given by

Using the same You state given in problem 2, what is the probability of finding YOU in the state LOVES ME through

a) (5 pts) strong - L?

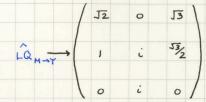


5. (5 pts) Write 2-3 sentences from your perspective defending either position on outological causality (discretization by origin or discretization by poiesis), as applied to QM, QR, or both.

EXTRA CREDIT (10 pts)

Consider the norm-factored LQ in the operator space

ME -> YOU given by



Using the You state from problem 2, what would be the normalization factor? What is the matrix representation of the normalized LQ?

EXTRA EXTRA CREDIT (1-5 pts) Name up to five other common was not listed in lecture. (1 pt per valid LQ) SUPPLEMENTARY NOTES