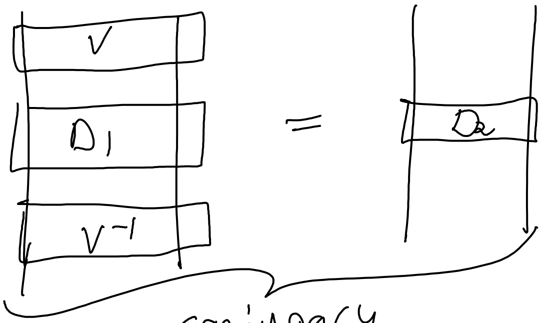
Unitary Equivalence and Link Relations

May-28-09
7:53 AM

<u>Question</u> On arrow diagrams, is unitary equivalence equivalent to link relations?

<u>unitary equivalence:</u>



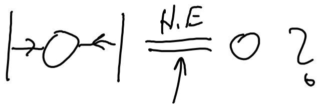
conjugacy.

with $V^* = V^{-1}$

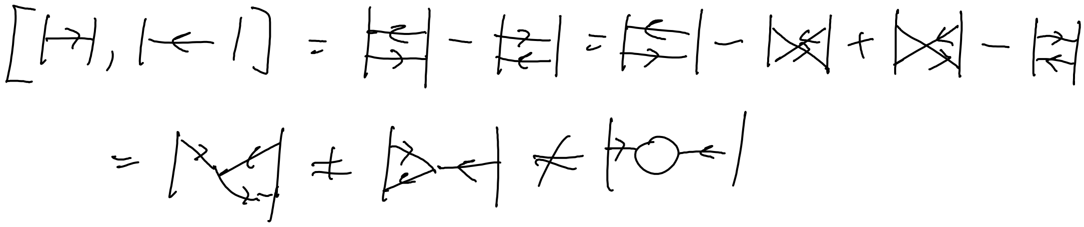
Already conjugacy seems to imply link equivalence!
Is it that conjugacy implies unitary equivalence?
In matrices, I think this is true if the conjugating matrix is normal. Is every element of A^w normal?

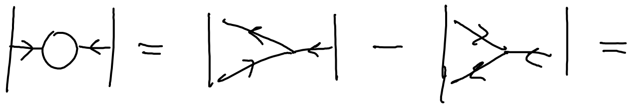
$$[V, V^*] = 0 \;?$$

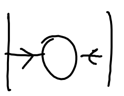
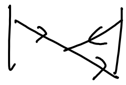
[Possibly so, because at least for connected V, $V - V^* = \operatorname{div} V$ is central]

Q: Is 

Hermittian equivalence, for "commutation with a Hermittian"





Q: Is  a divergence? Yes, of 

The point seems to be that the relations relevant for Duflo are not link relations. The wheels get multiplied into the input function, rather than applied to it as differential operators.

Question Is there still a way to derive the Duflo $\Leftrightarrow$ KV equivalence on a diagrammatic level? Perhaps by multiplying by a Gaussian before integration? [With no metric, we have no natural Gaussians.]