Interrupting the link between correlations and probabilities

Mehdi Mhalla

16 October 2026

Partialy based on :

Contextuality as Automata: Master thesis Louis Triouleyre

https://membres-lig.imag.fr/mhalla/understanding/Rapport_de_stage_M2-Louis.pdf

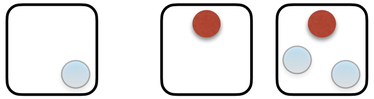
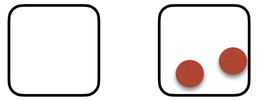
Plan

- Multipartite width of contextuality from graph games
- Dynamical automata for contexuality from counts
- Can we reason from interruptions ?

Classical strategies vs Quantum pseudotelepathy



- Each of the three players is presented with either a red ball or a blue ball.
- They can either keep the ball or return it.
- Each player has a local view of the input and makes a local decision without communicating with the others after getting the input.
- Global losing condition (cooperative game):
  - When each player is presented one of : the set presented in total has 1 red balls and 2 blue balls
    - Returning an odd total number of balls
  - When each player is presented one of  : the set presented in total has 3 red balls
    - Returning an even total number of balls

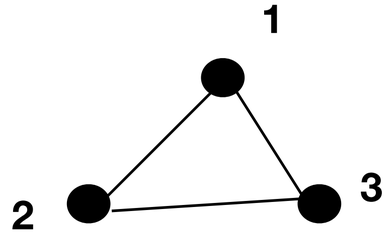
Presented set	Set given back in total
	
	

Losing configurations

[1]Reformulation of a Game proposed by Mermin
[2]Pseudotelepathy was defined by Broadben and Brassard

Correlations from graph states

Graph states $|G\rangle = \frac{1}{\sqrt{2^{|V|}}} \sum_{y \in \{0,1\}^V} (-1)^{|G[\mathrm{supp}(y)]|} |y\rangle$



$$
\begin{aligned}
X \otimes Z \otimes Z|\psi> &= |\psi> \\
Z \otimes X \otimes Z|\psi> &= |\psi> \\
Z \otimes Z \otimes X|\psi> &= |\psi> \\
X \otimes X \otimes X|\psi> &= -|\psi>
\end{aligned}
$$

MCGS: Pseudotelepathic strategy

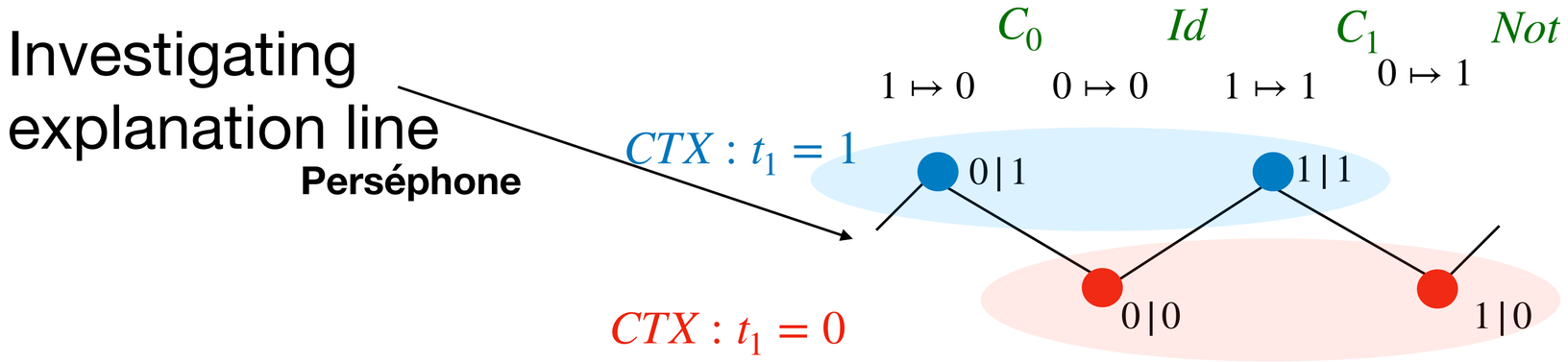
The three players share the triangle graph state and

-Measure in X basis when the ball is red and in Z basis otherwise

-Keep the ball if and only if the outcome is 0

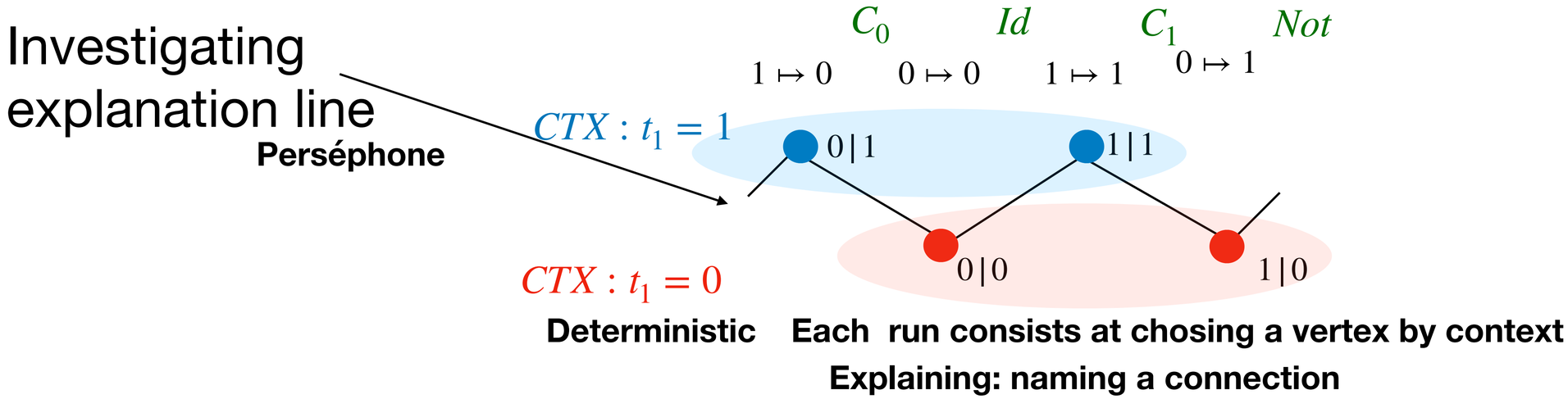
[AM13] MCGs with perfect quantum strategy and pseudotelepathic iff G bipartite

Contexts and deterministic strategies



- Two types of questions/2-localisable events/contexts that we want to explain with one behaviour

Contexts and deterministic strategies

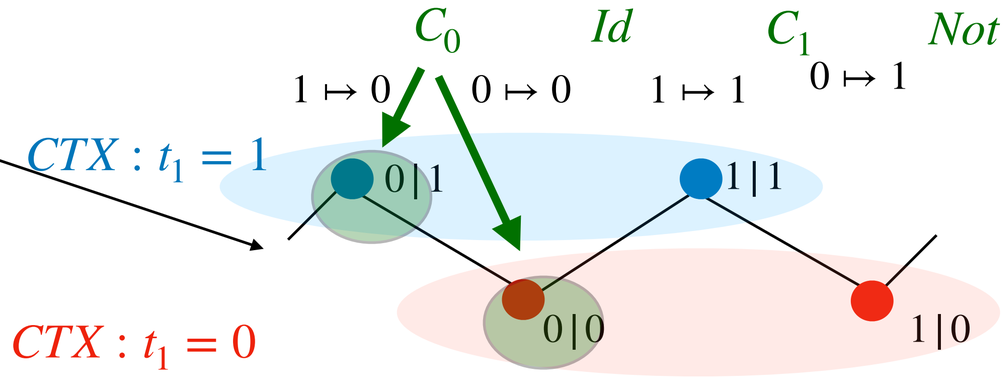


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Contexts and deterministic strategies

Investigating explanation line

Perséphone



Deterministic **Each run consists at chosing a vertex by context**

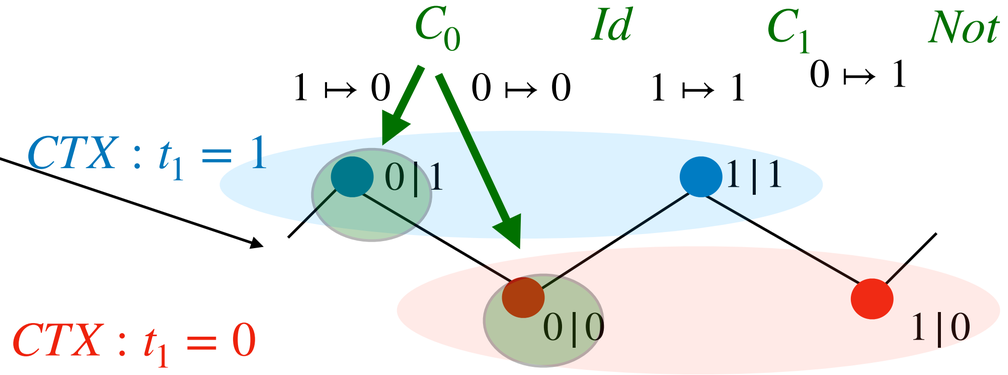
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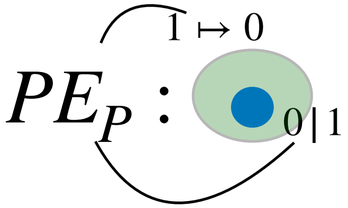
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Persephone and her examiner E_P

2 names for 1/4 locus

of collapse of distinguishability

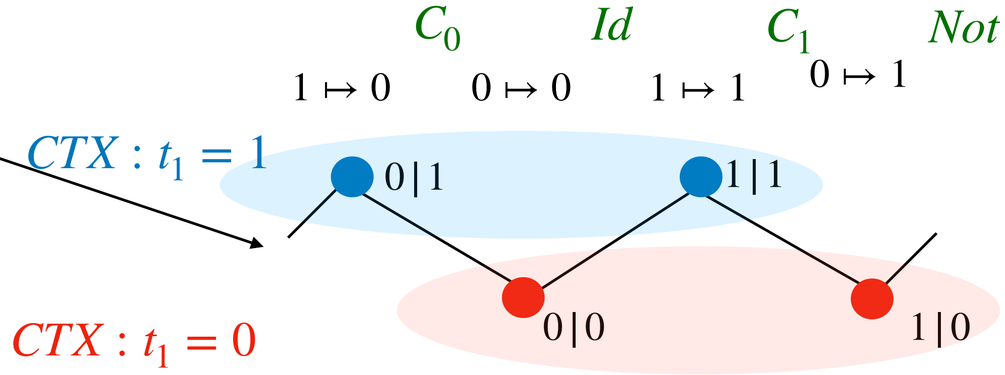
4 Classical bilocalisation

Similar for/by EP_P

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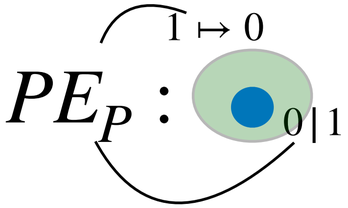
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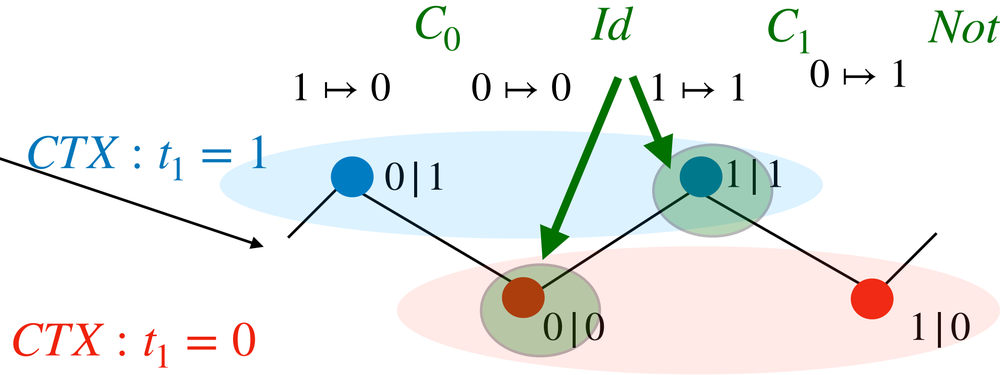
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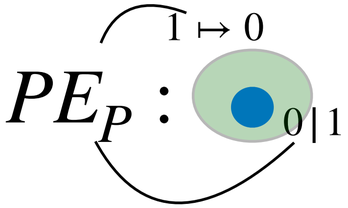
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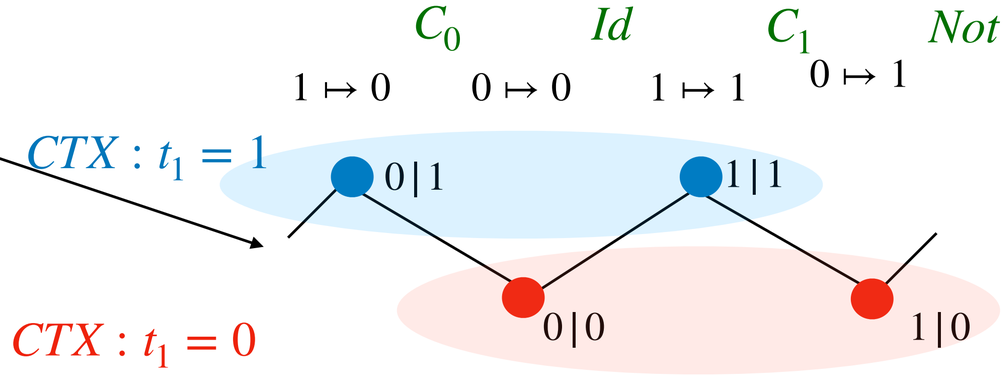
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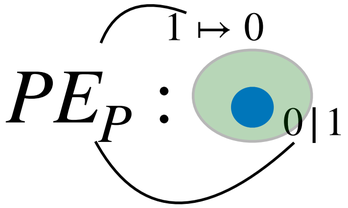
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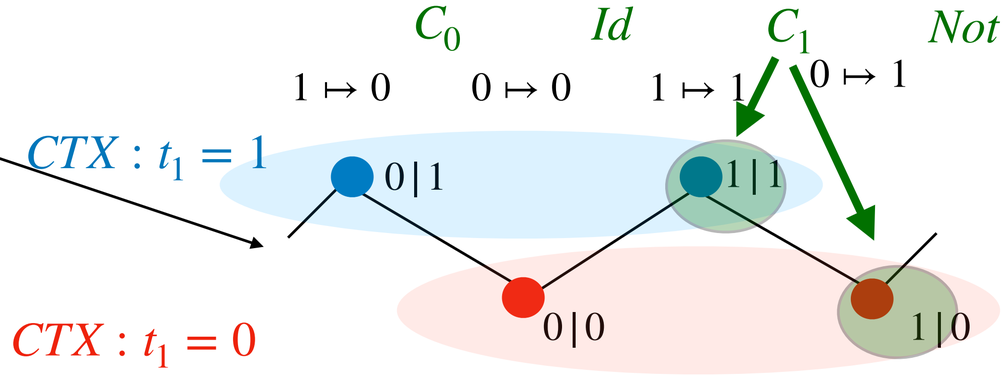
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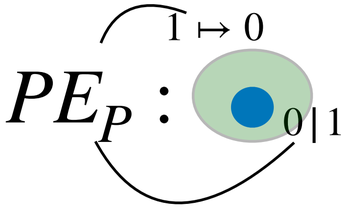
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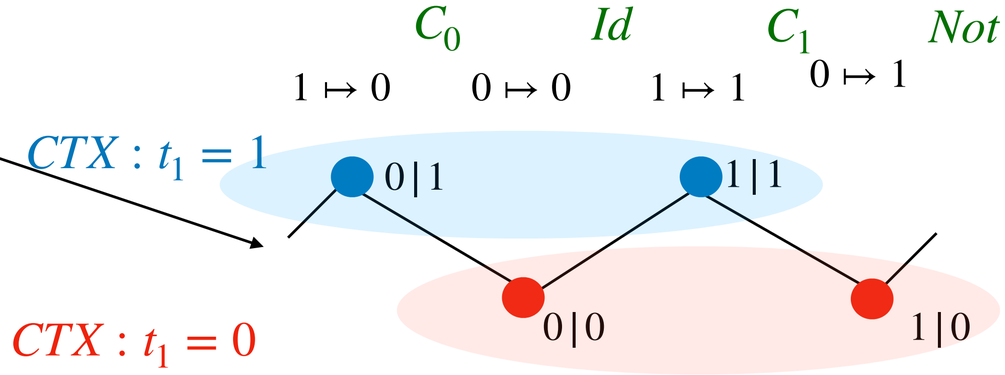
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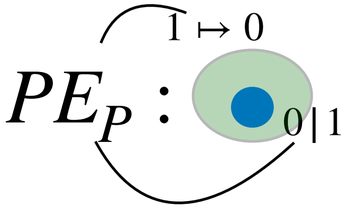
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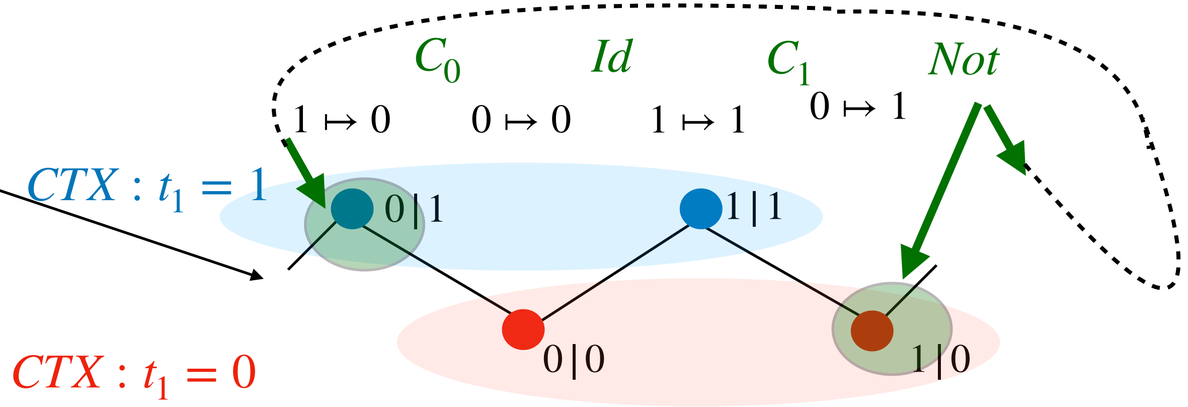
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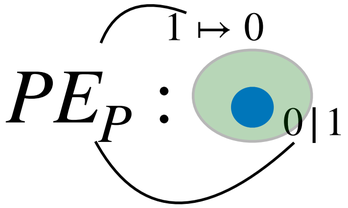
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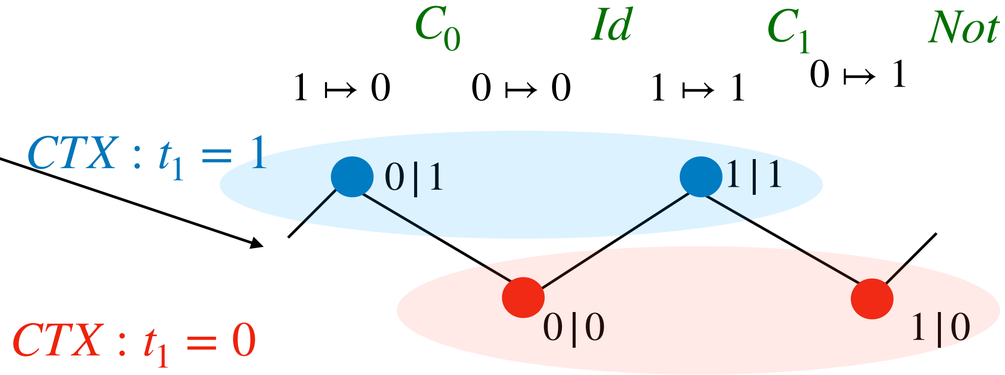
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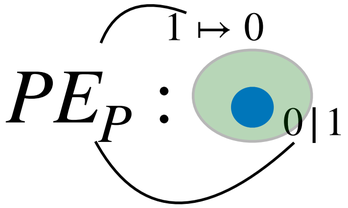
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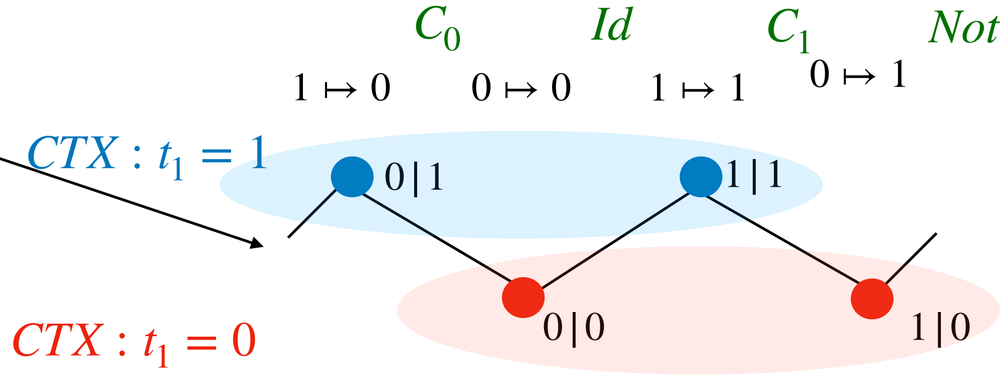
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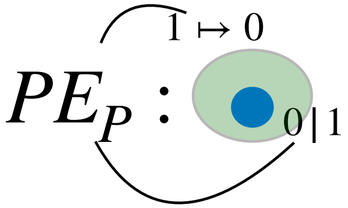
Fixed question type

1/2Event

1 1

fair a-split

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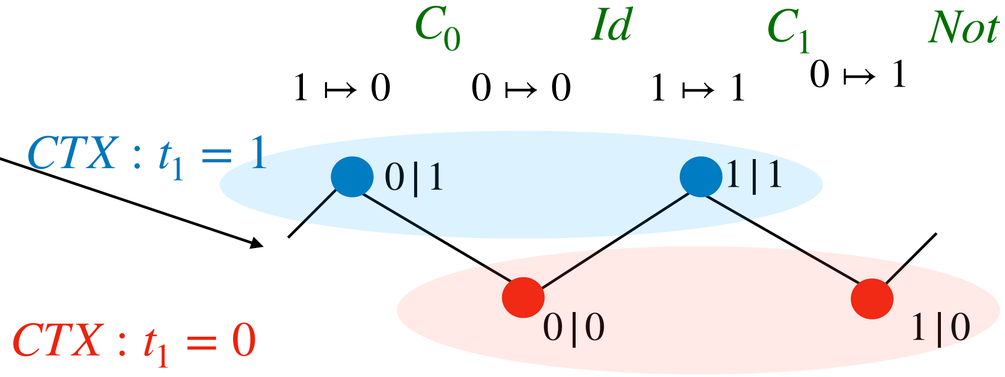
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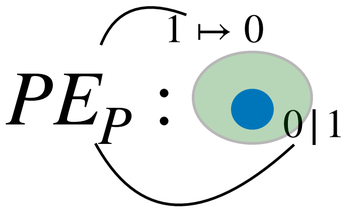
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Fixed answer

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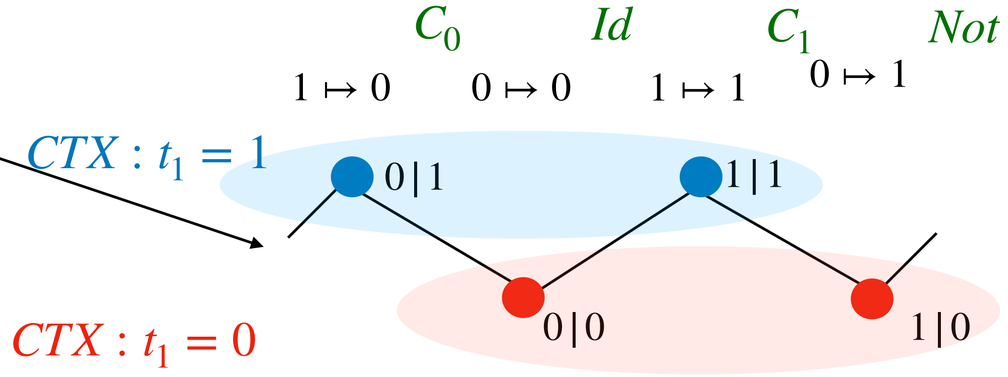
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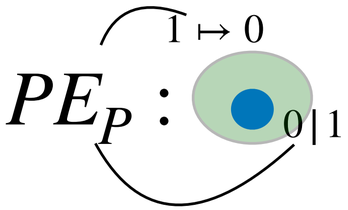
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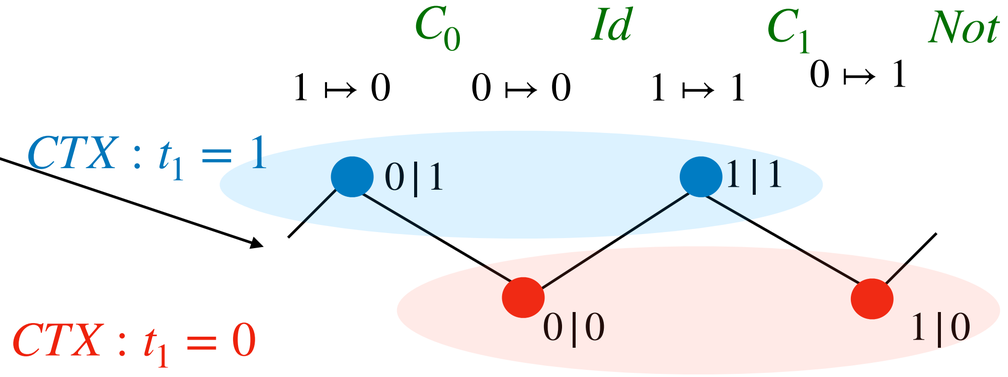
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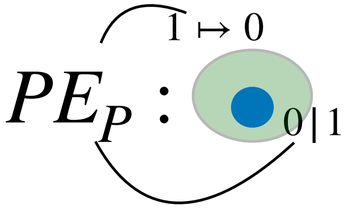
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Change Answer

Change type

Fixed answer

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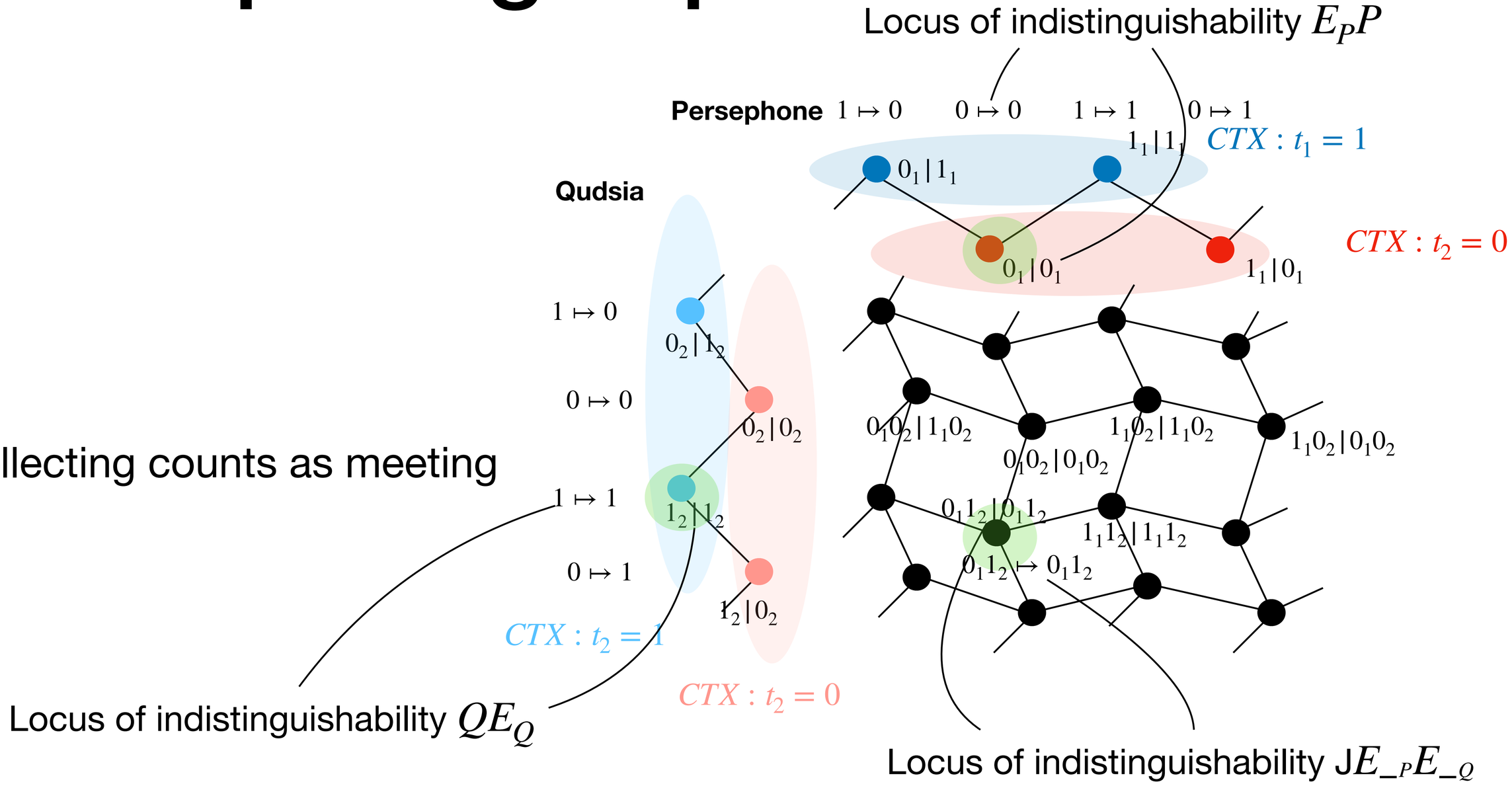
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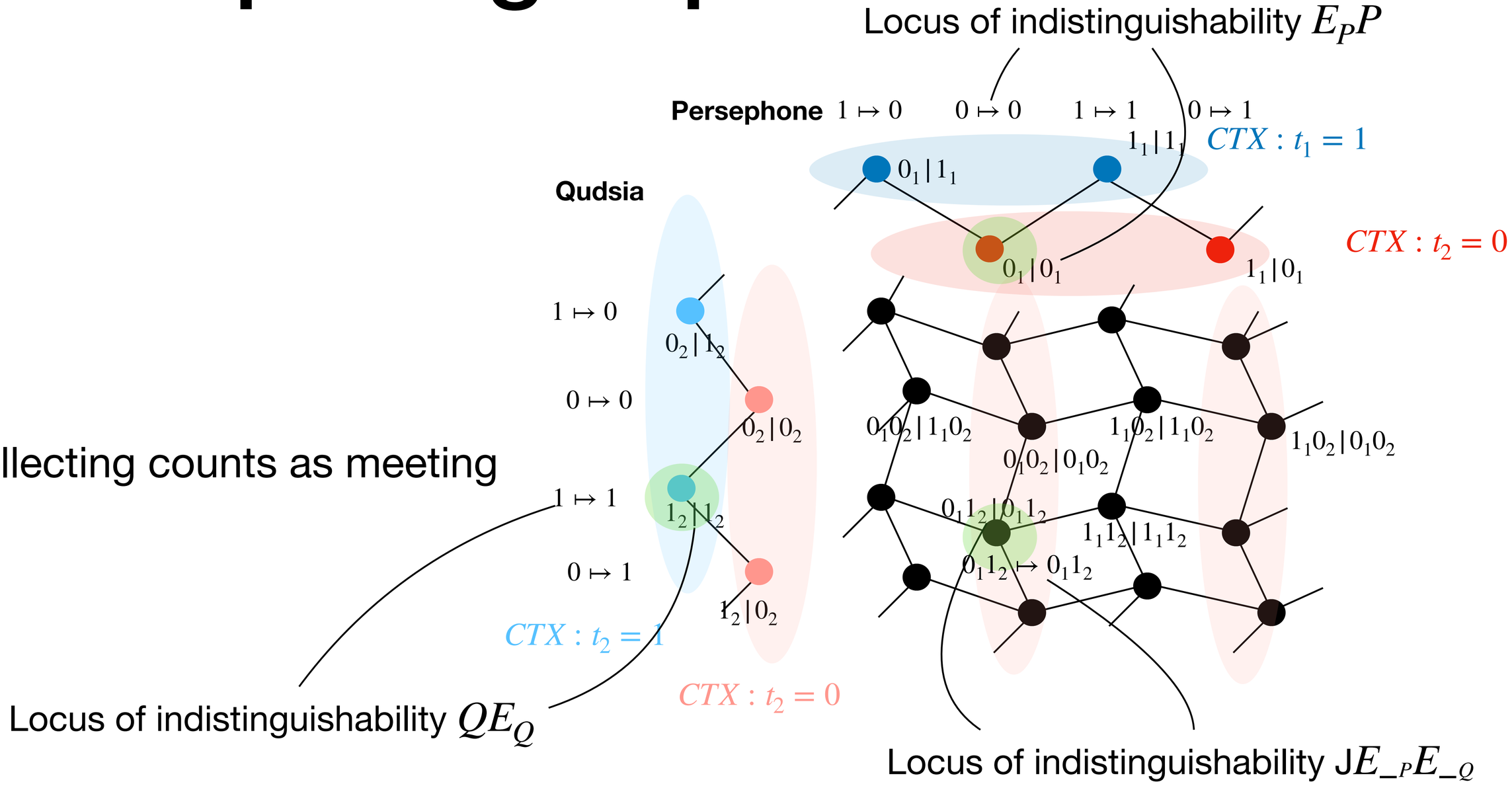
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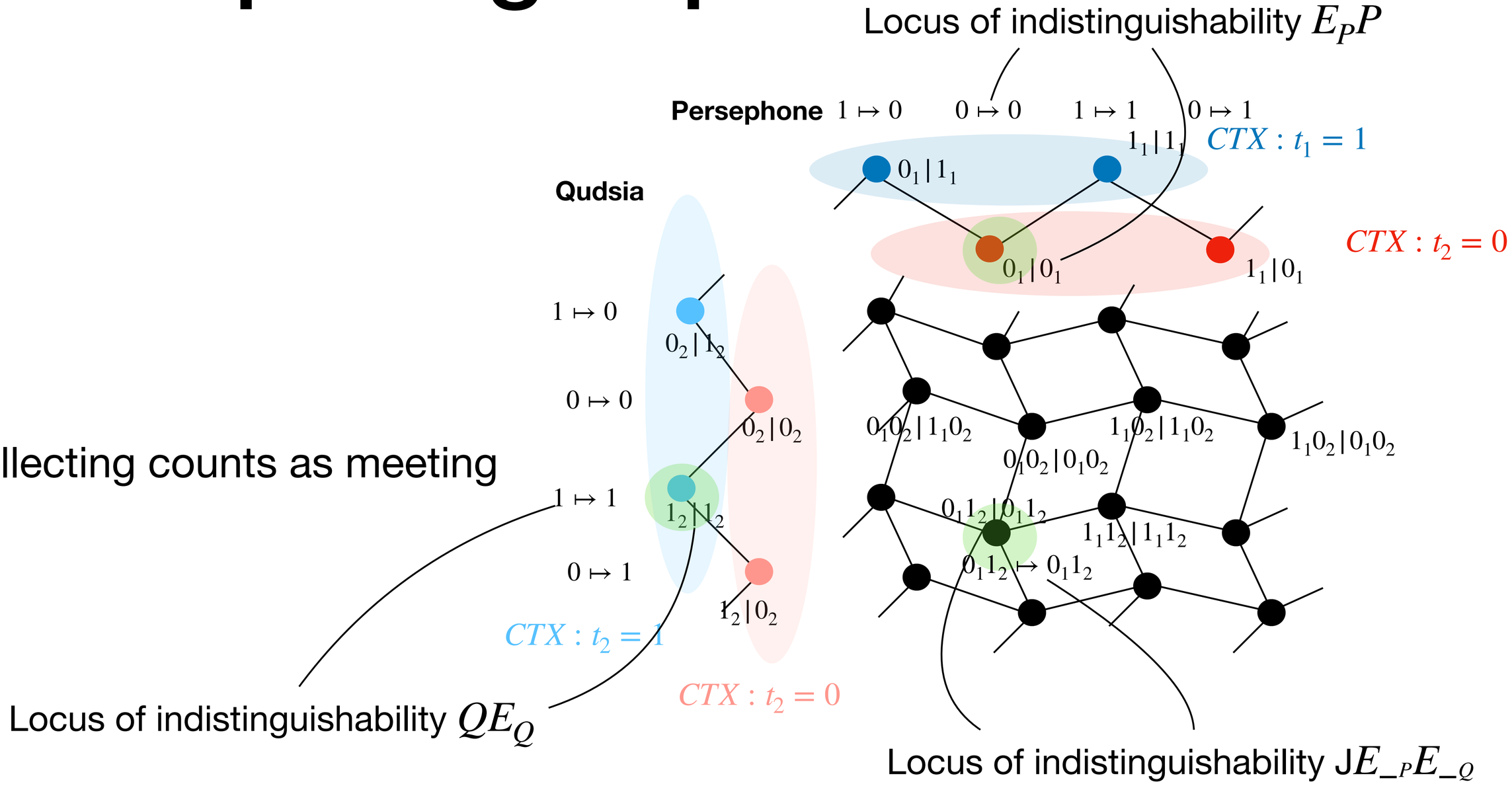
Composing experiments



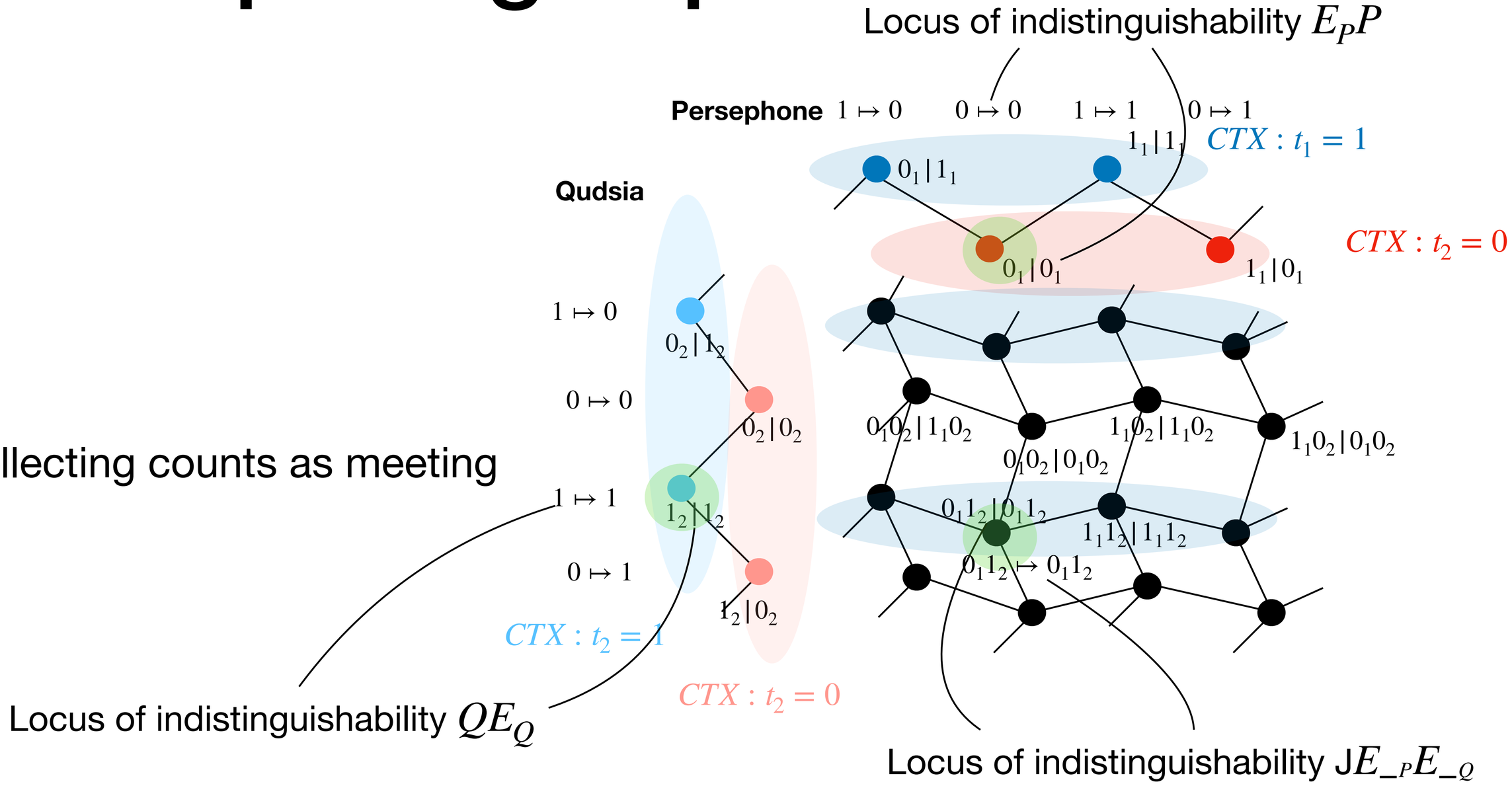
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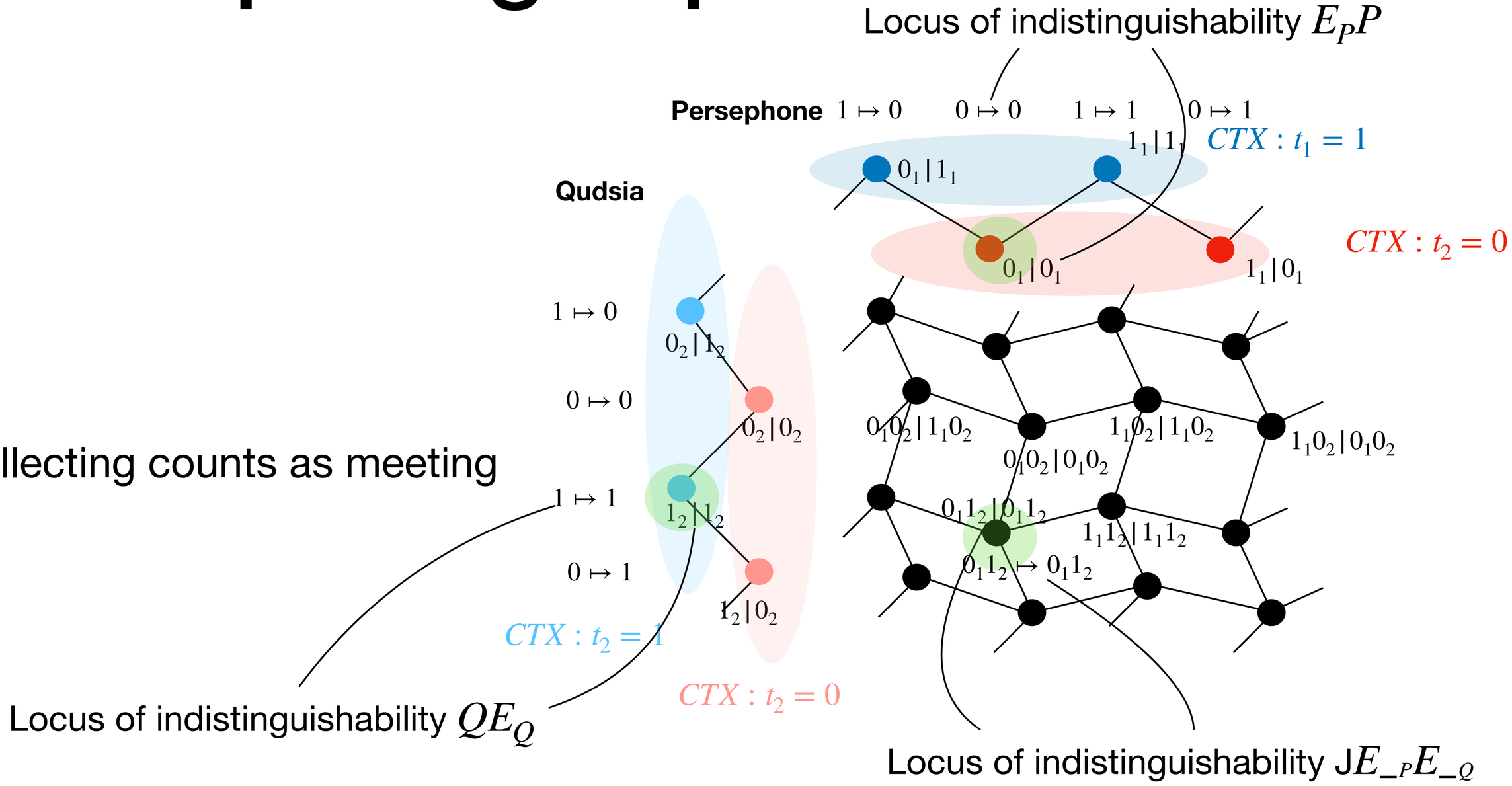
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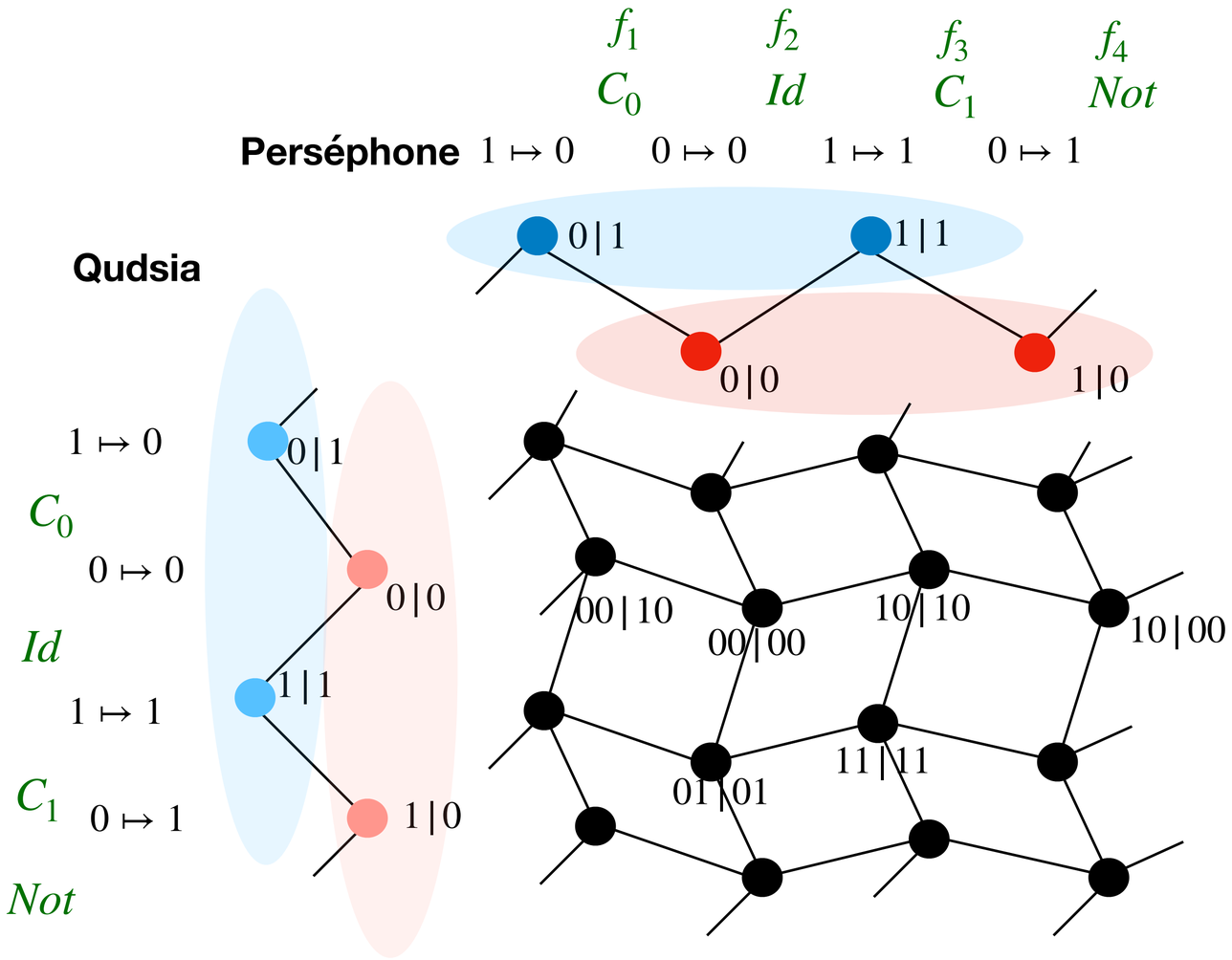
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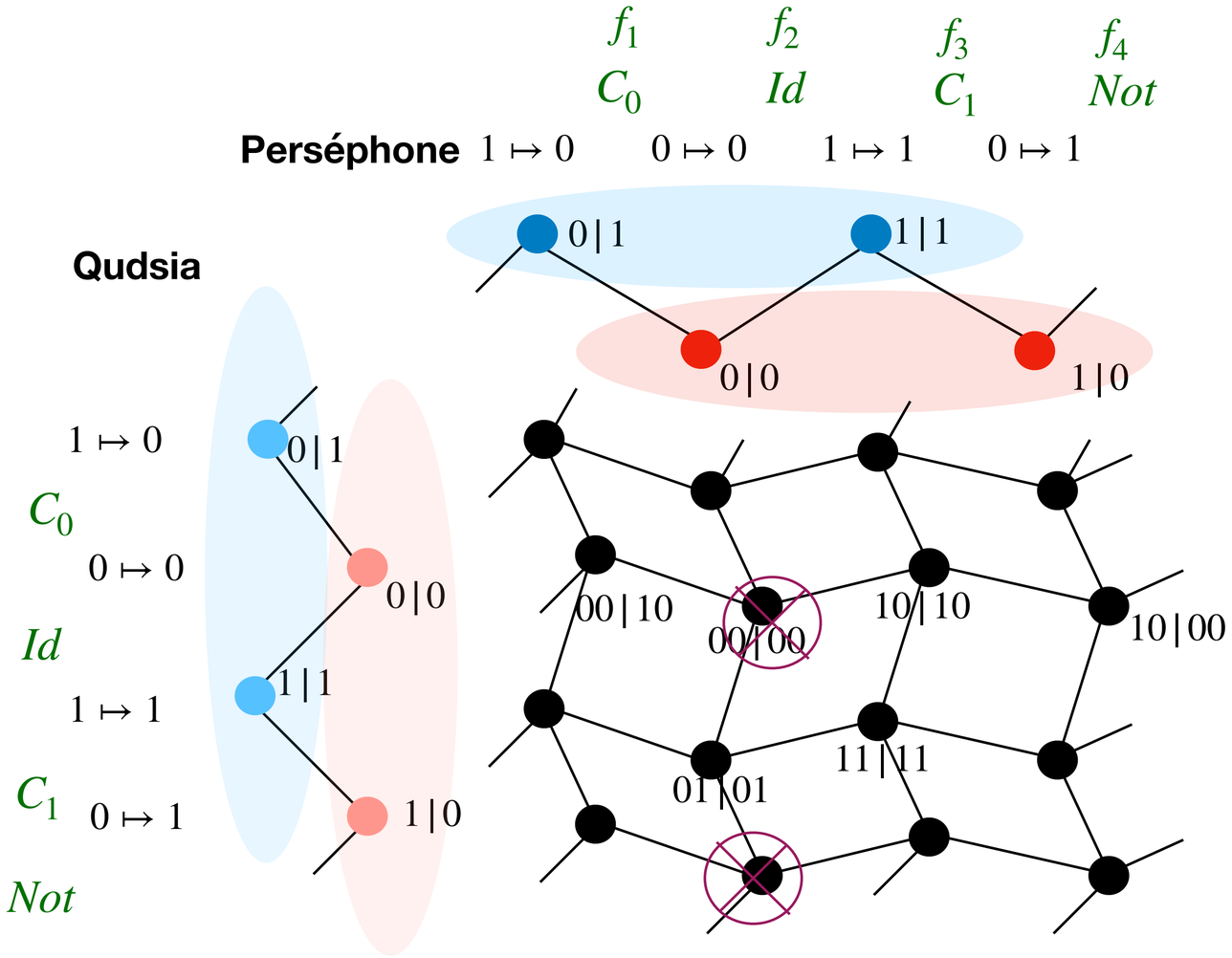
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No communication constraint

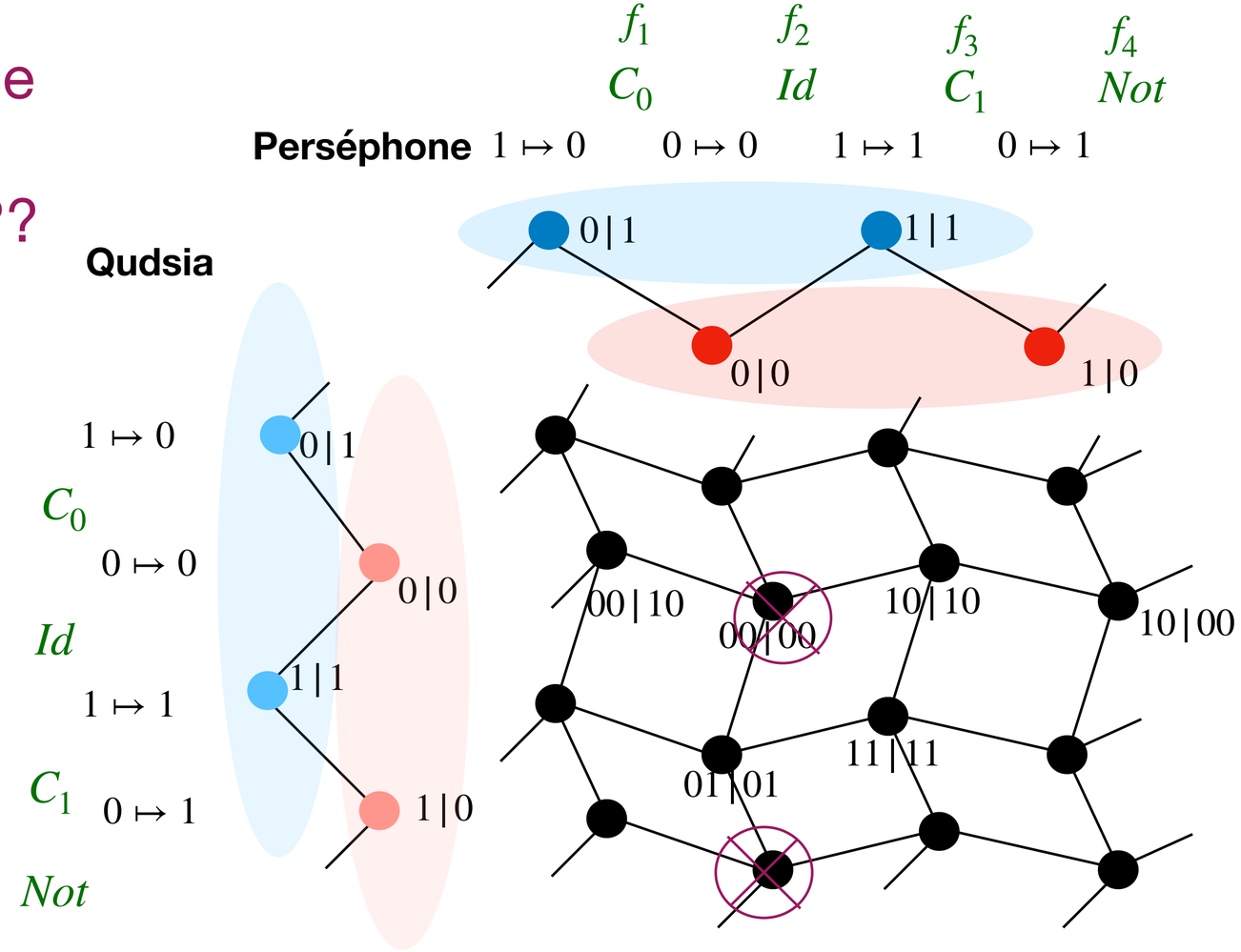


No communication constraint



No communication constraint

- When Perséphone keeps the red ball Qudsia is never presented with a red ball????
- Setting fairness questionable????

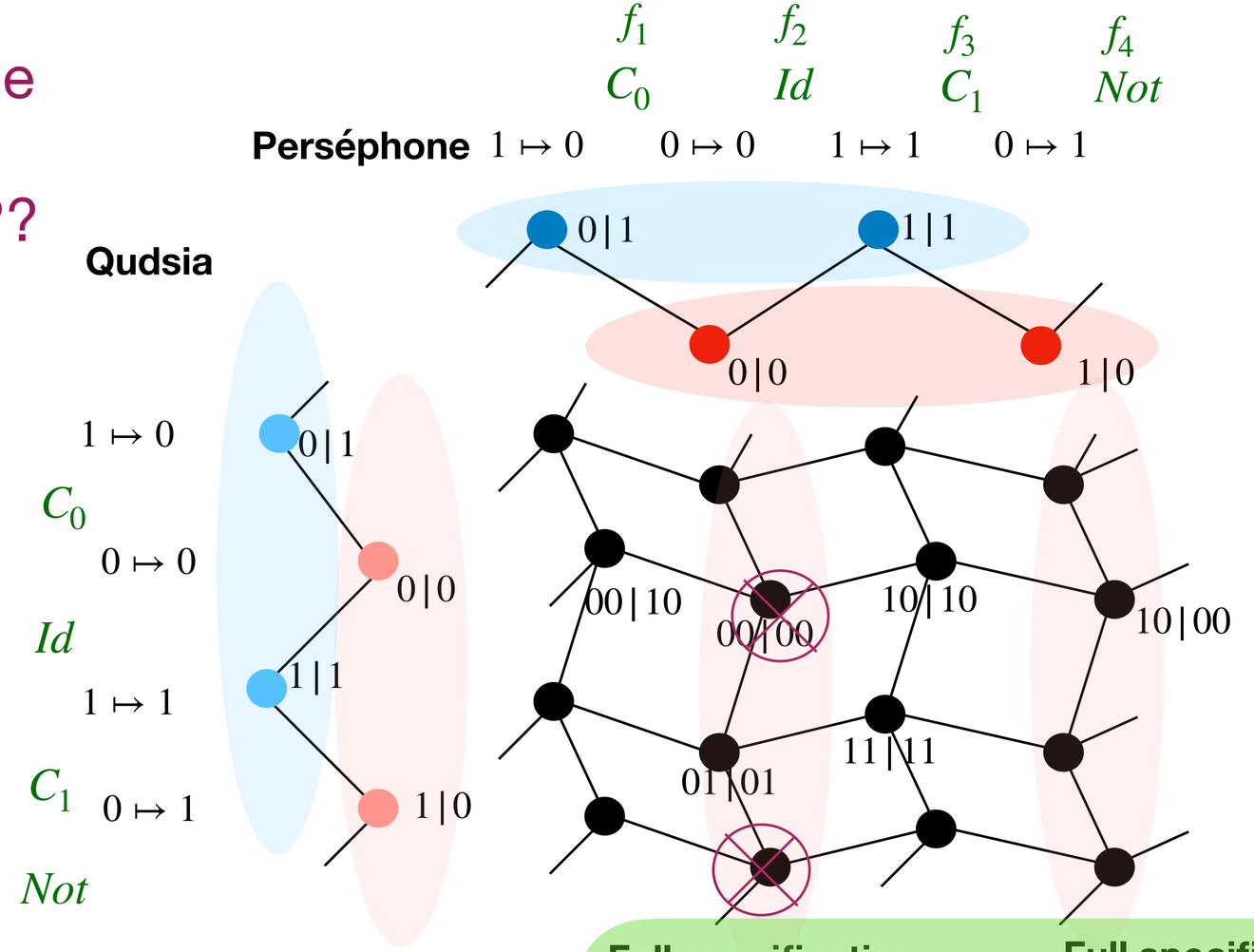


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Informal principle:
A full specification of a possible event is
- one connected component
- with at least two vertices

A non signaling set is a subset of vertices such that each line and each column has at most one connected component of at least two vertices



Full specification $a_1 = 0, t_1 = 0$

Full specification $a_1 = 1, t_1 = 0$

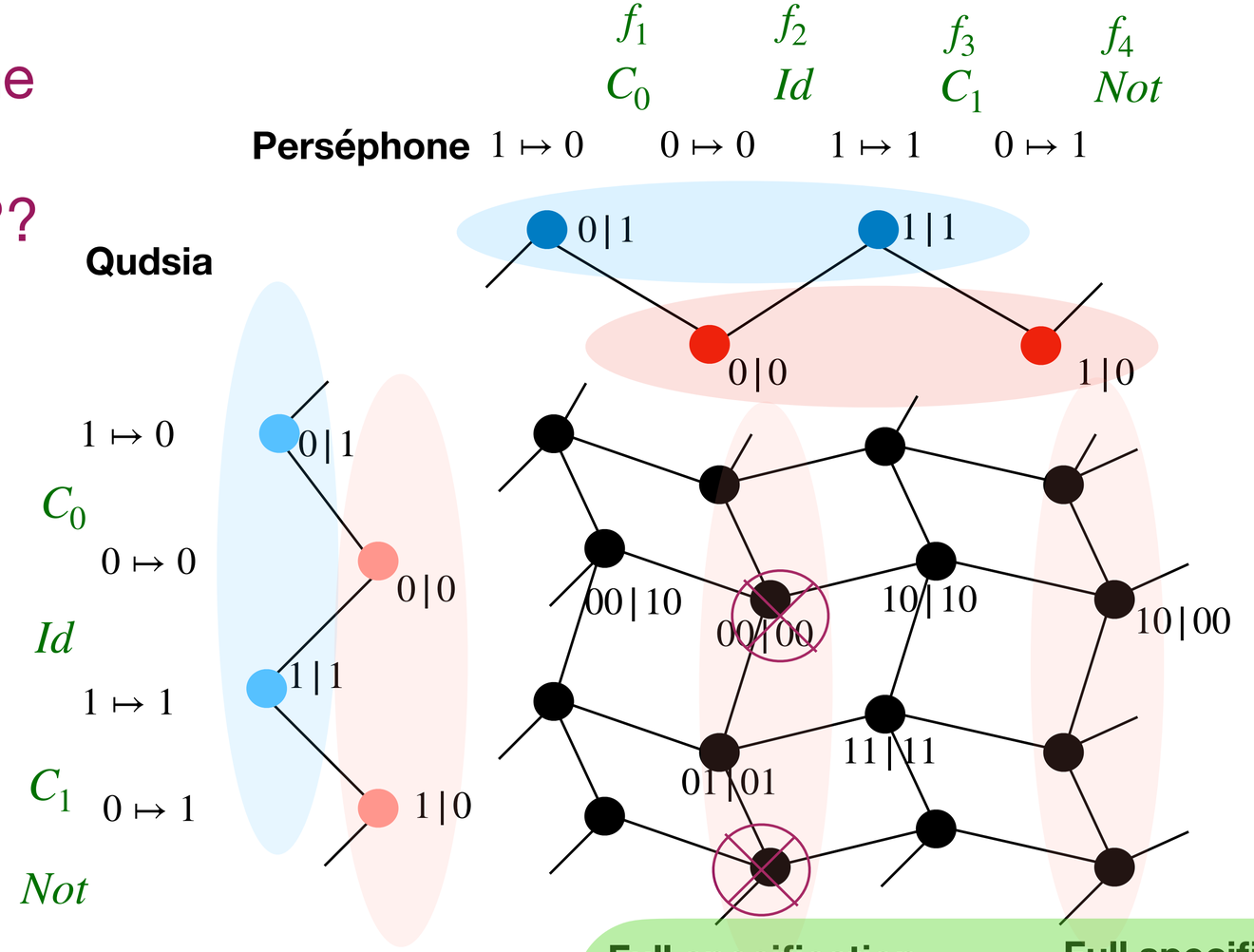
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Specification $t_1 = 0$

Explaining with probabilities

Probabilities at contexts

$$p : V \to [0,1]$$

$$\sum_{v_{a|t} \in CTX} p(v) = 1$$

Context :$t = 1$

$p(t = 1) = 1/2$

$p(0\,|\,1) = 1/2$

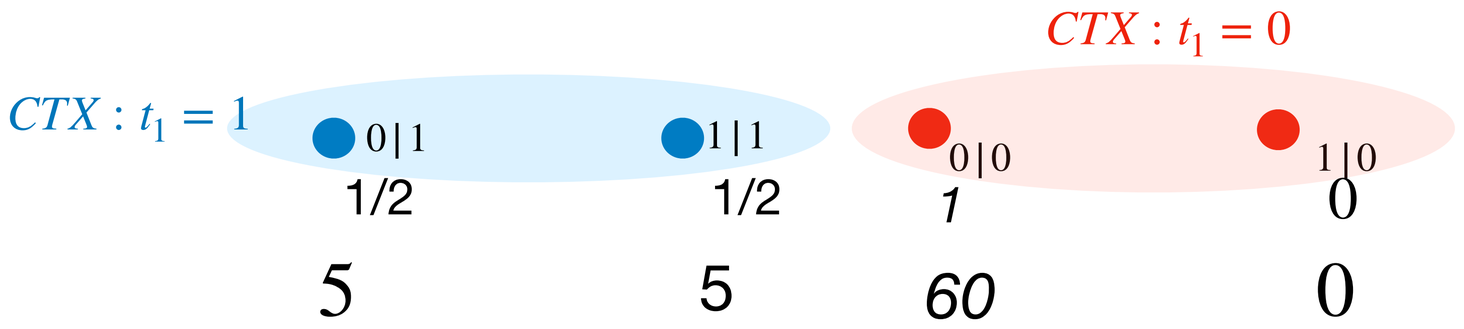
$p(1\,|\,1) = 1/2$

Context :$t = 0$

$p(t = 0) = 1/2$

$p(0\,|\,0) = 1$

$p(1\,|\,0) = 0$



Induces normalisation between contexts

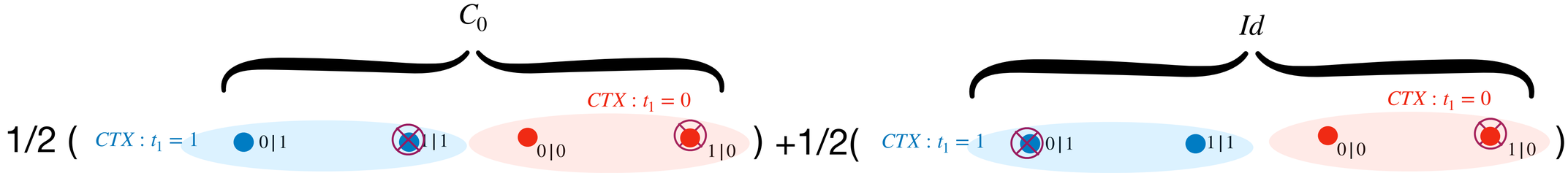
Loses best experimental confidence estimation (Nb experiments)

[CS 14], Cabello Severini Winter Graph-theoretic approach to quantum correlations, PRL 112, 040401

[AB11] S.Abrahamsky, and A.Brandeburger The Sheaf theoretic structure of non-locality and contextuality

[AFLS15]Antonio Acin, Tobias Fritz, Anthony Leverrier, and Ana Belen Sainz. A combinatorial approach to nonlocality and contextuality. Communications in Mathematical Physics

Where does the probabilities come from:
A family of explanations viewed by their marginals



$p : V \to \{0,1\}$ **Deterministic behaviour : choosing one vertex per edge: defining a function**

$p : V \to [0,1]$ **Classical probabilistic behaviour: convex mixture of deterministic behaviours**

Classical probability rule $p(a_i \mid t_i) = p_{Id|t_i}\delta_{a_i=t_i} + p_{C_0|t_i}\delta_{a_i=0} + p_{C_1|t_i}\delta_{a_i=1} + p_{Not}\delta_{a_i \neq t_i}$

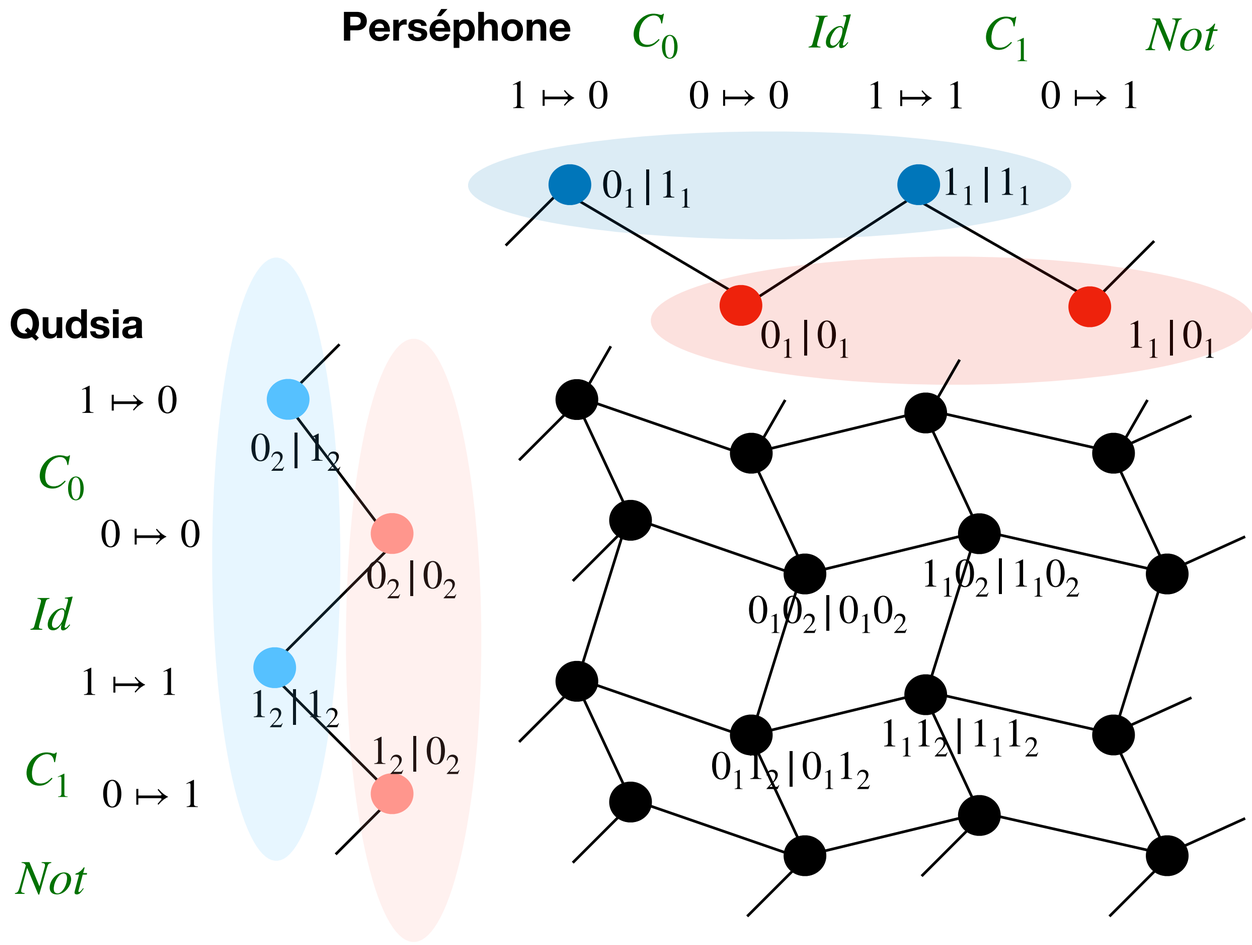
$p : V \to [0,1]$ **Quantum behaviour:**

Quantum Probability rule $p(a_i \mid t_i) = Tr(M_{a_i|t_i}\rho)$ (with some state and measurement)

$p : V \to [0,1]$ **General contextual behaviour:**

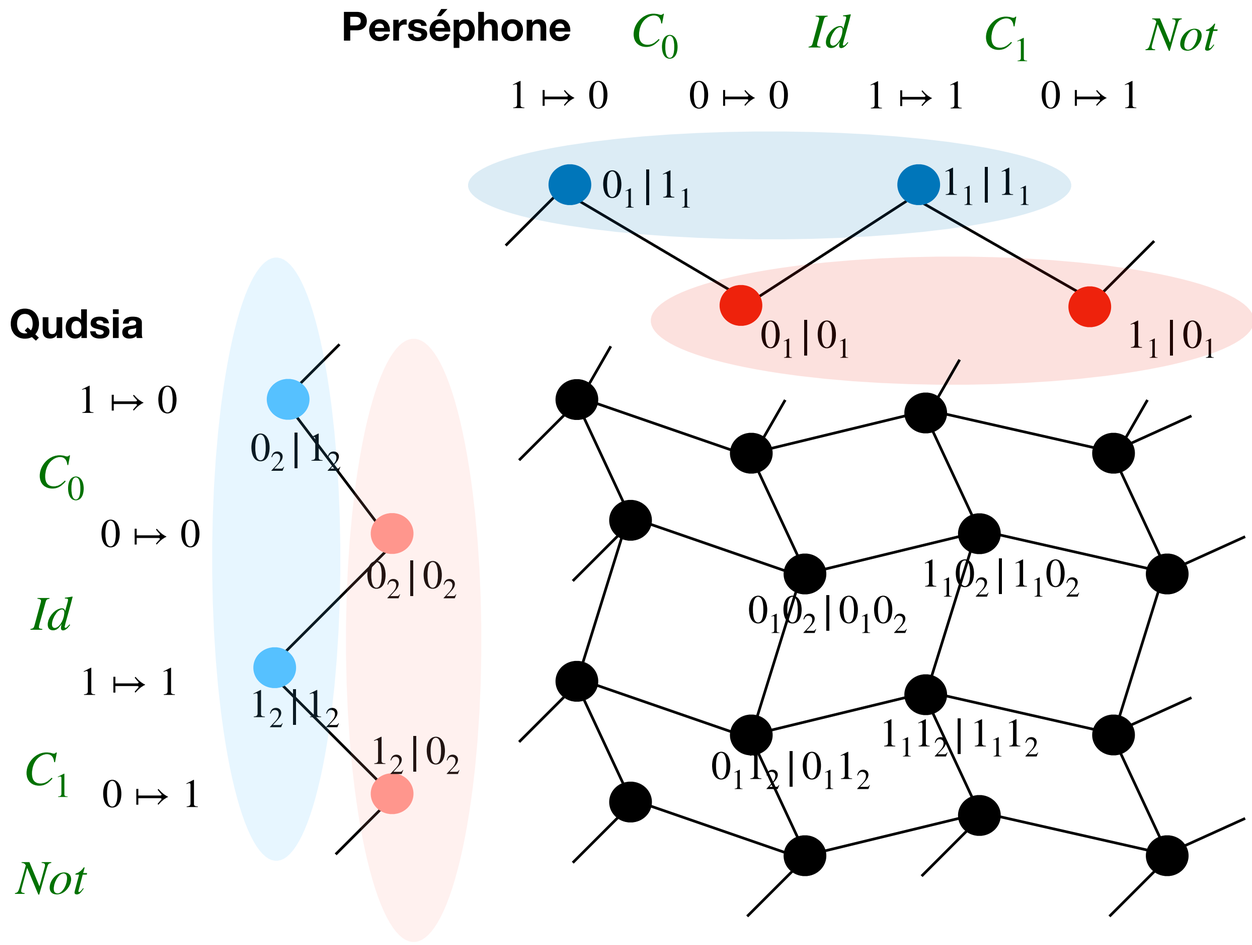
The only restriction is the general contextual rule $\sum_{v_{a|t} \in CTX} p(v) = 1$

Composition of hyperedges



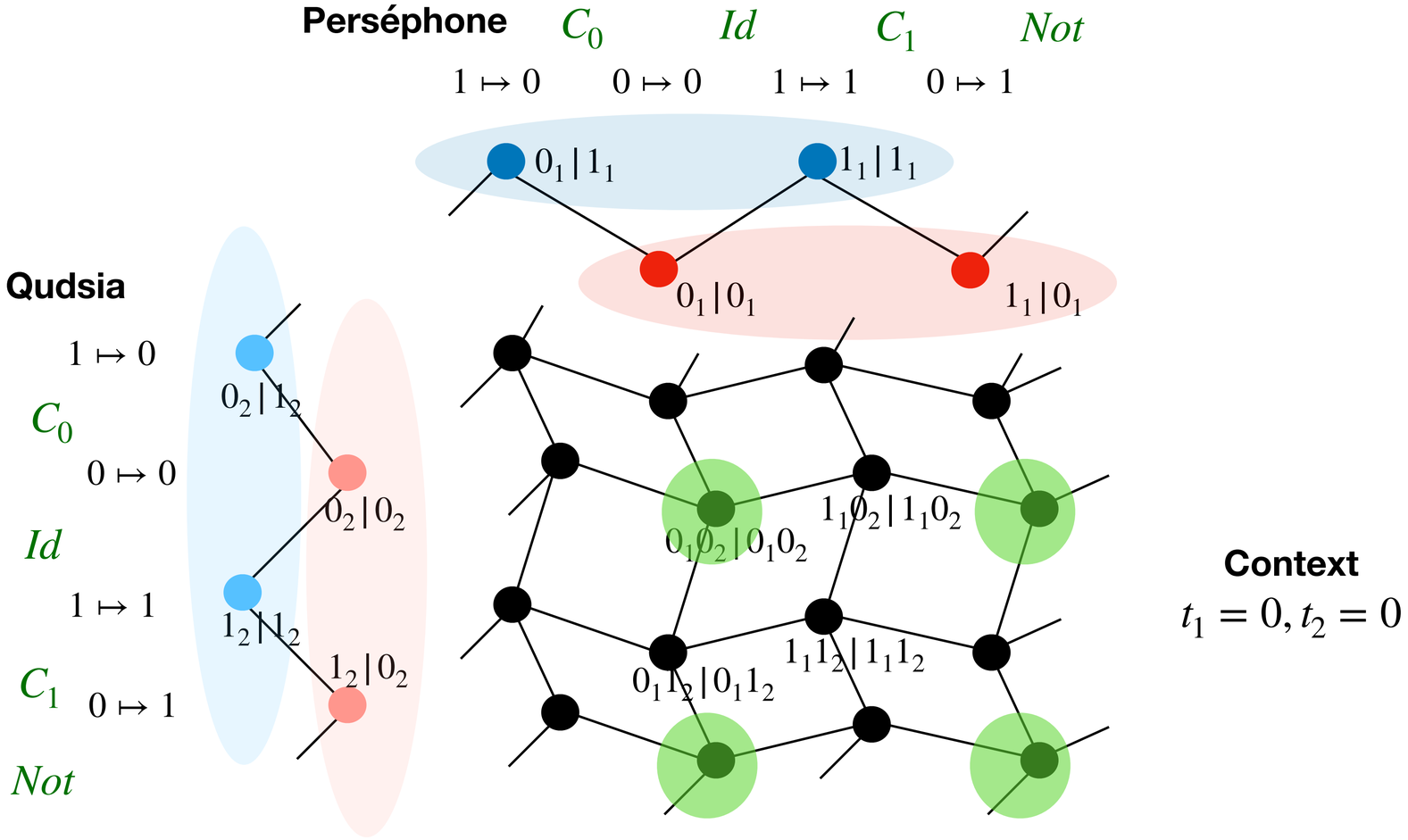
Composition of hyperedges

Contexts as Foulis Randall Products[AFLS]:
Hyperedges building:
For each player
    For each edge
        For each vertex associate an edge



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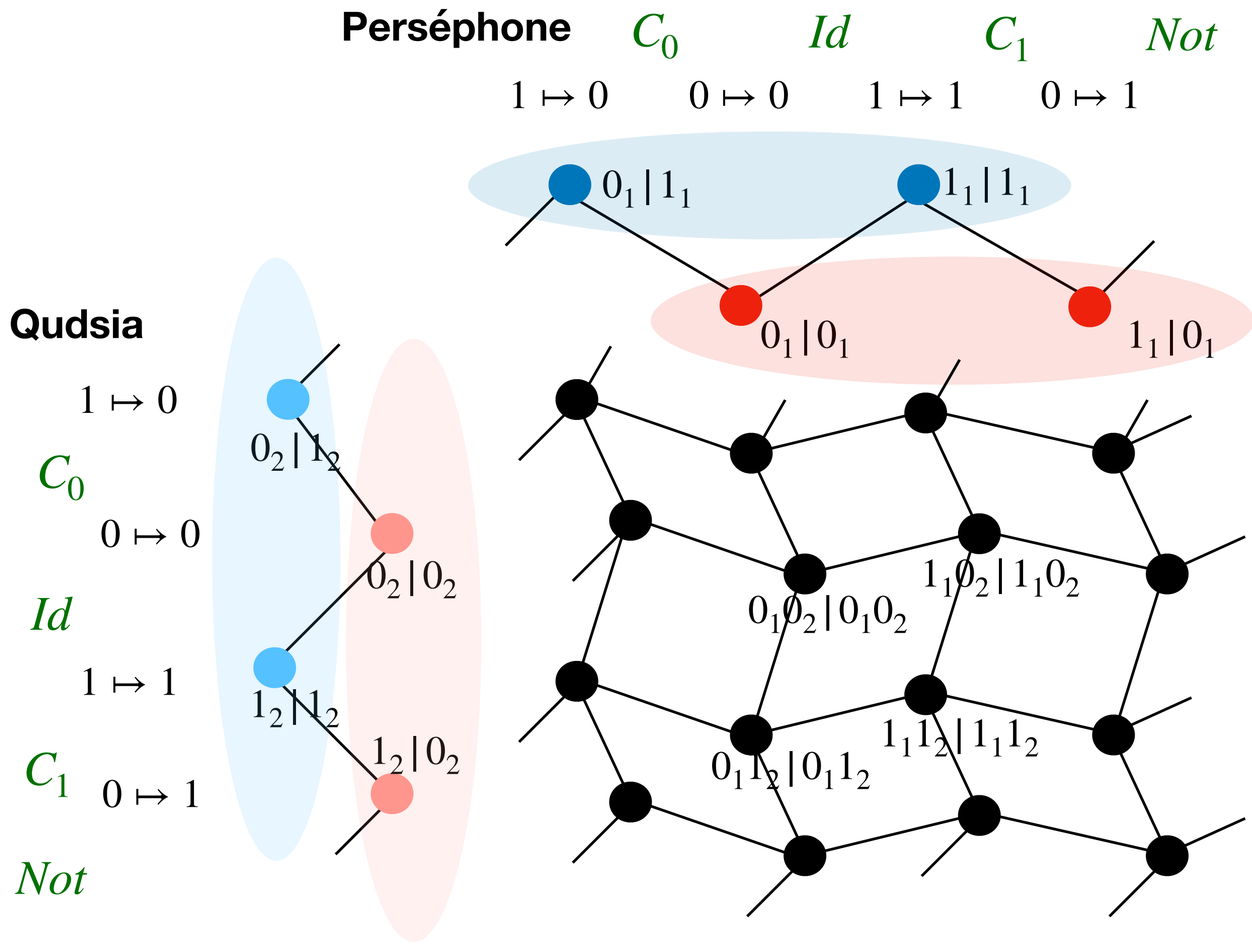


Context

$t_1 = 0, t_2 = 0$

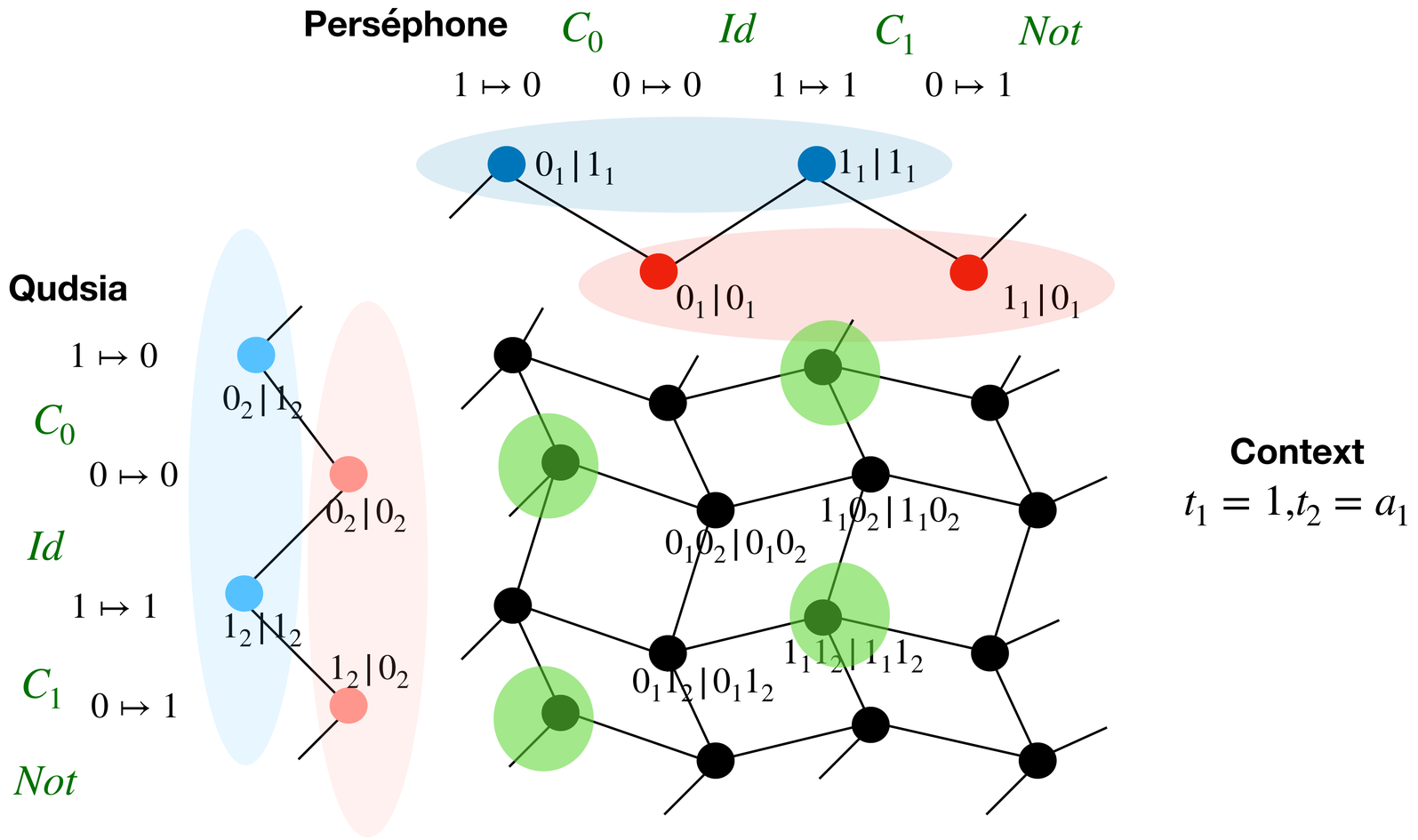
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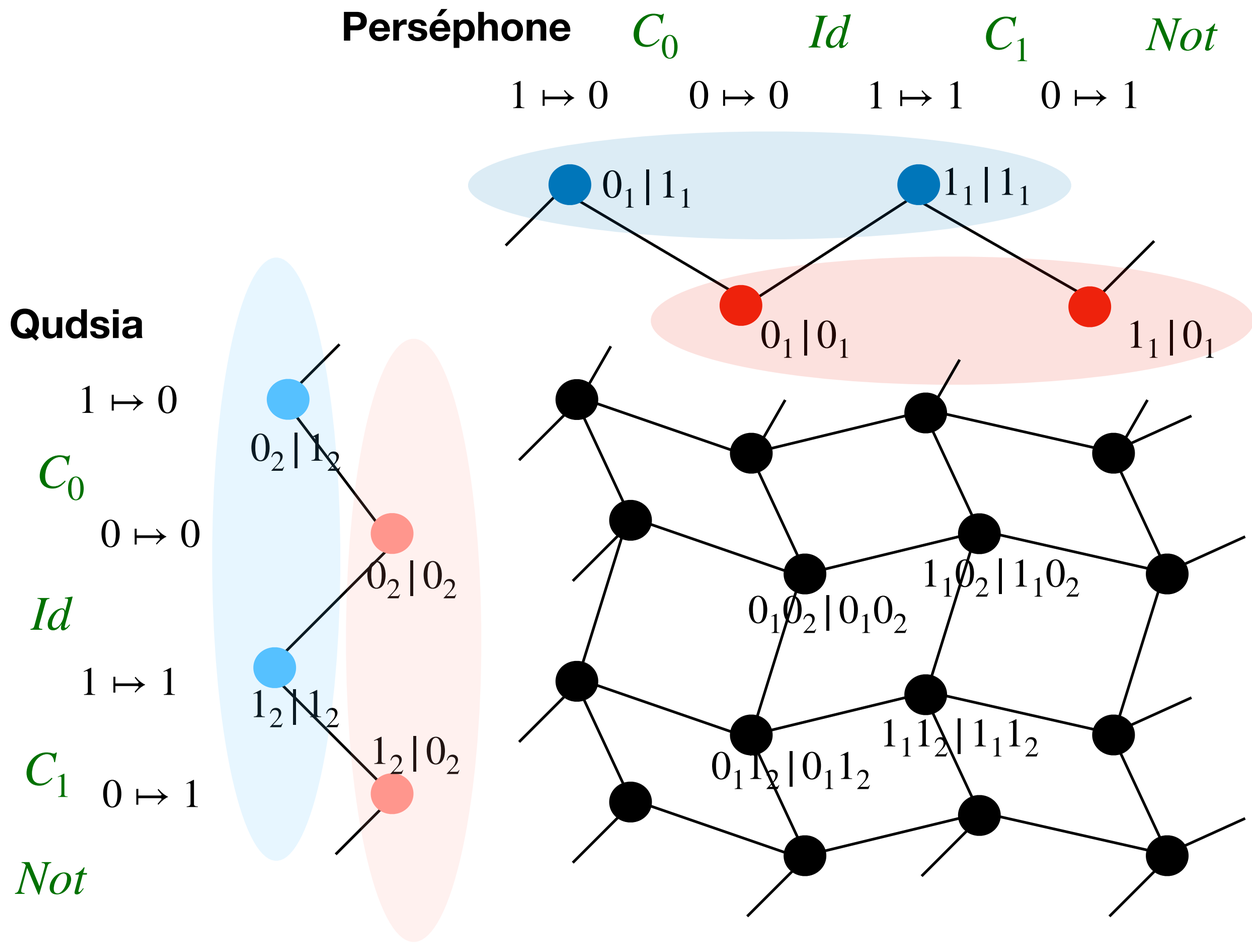


Context

$t_1 = 1, t_2 = a_1$

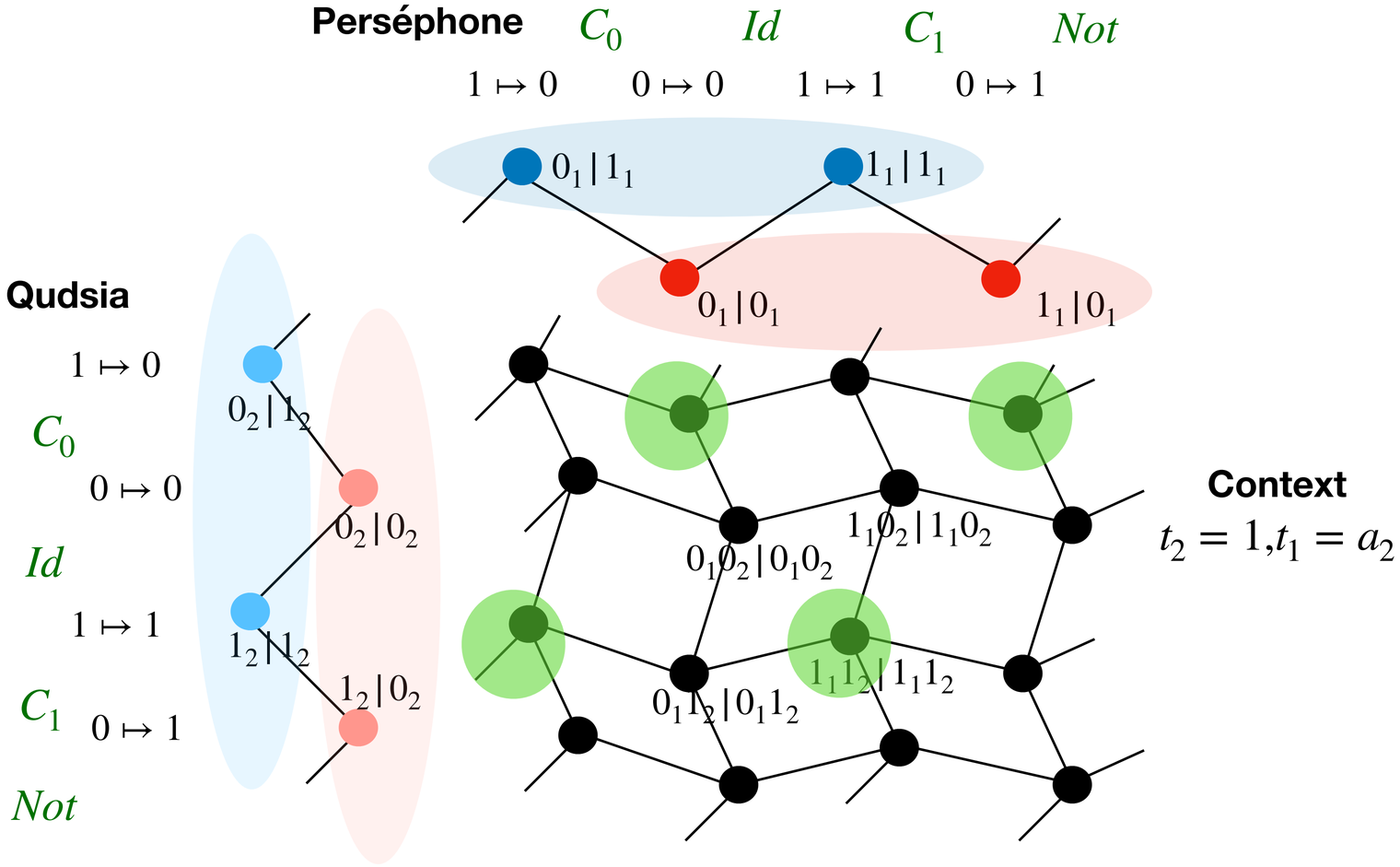
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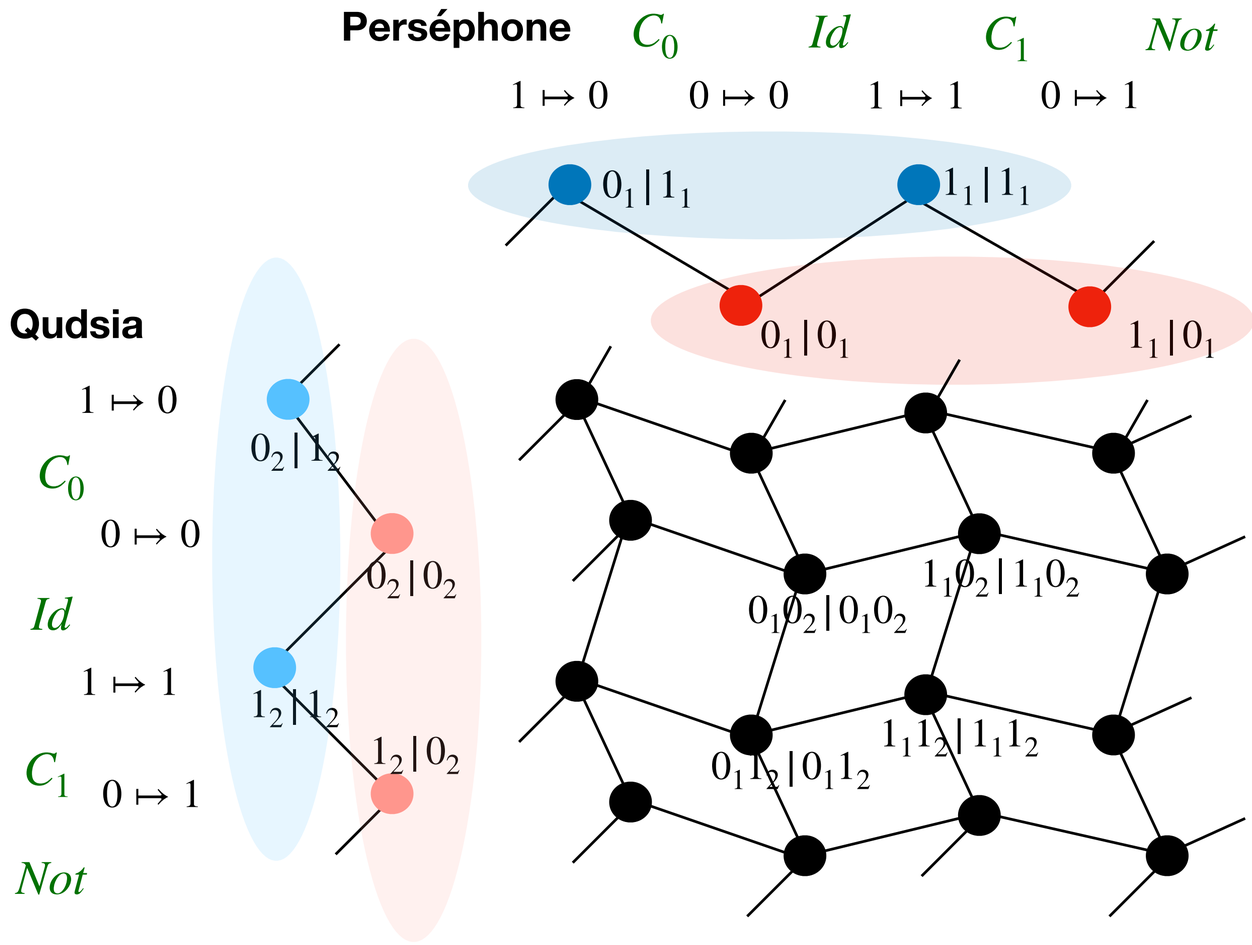
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Composition of hyperedges

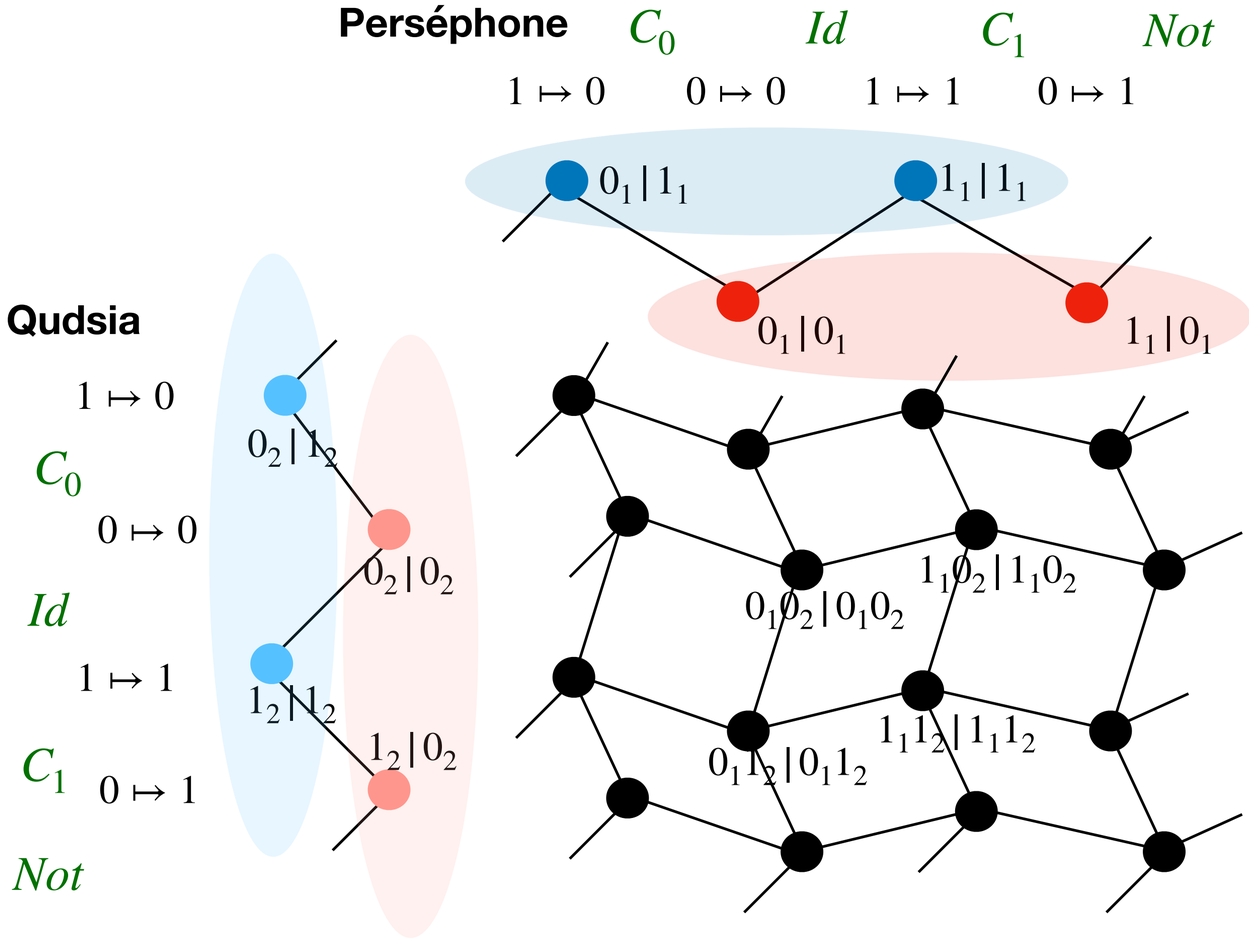
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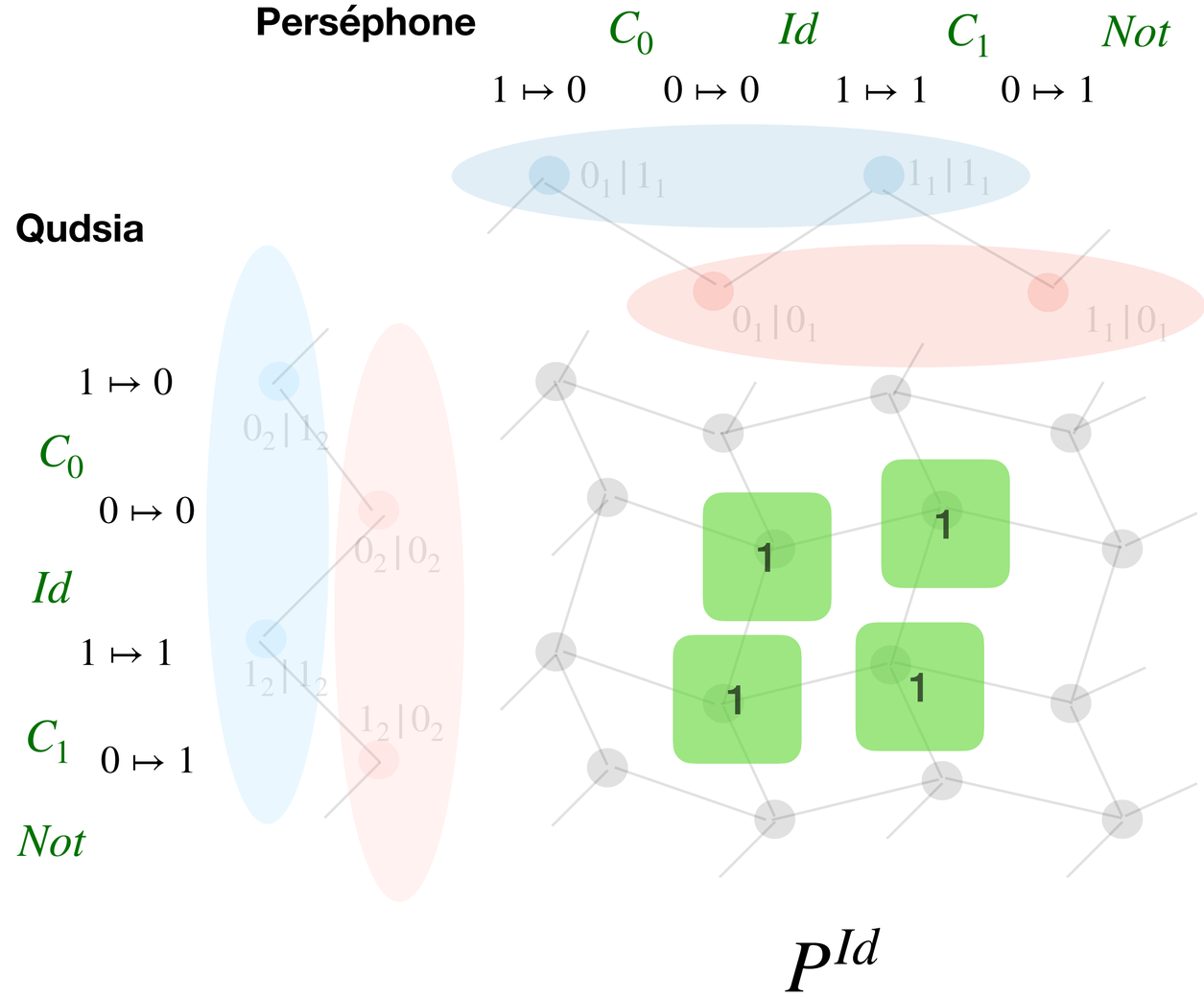
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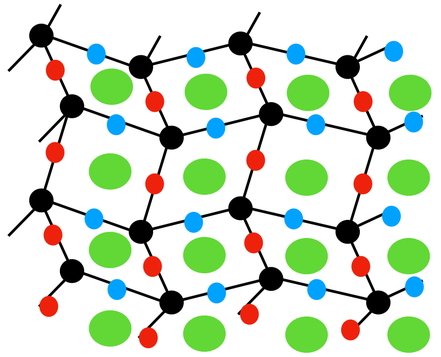
- Events consistent with:
  - Independent measures
  - Perséphone's measure is related to Qudsia outcome
  - Qudsia's measure is related to Perséphone's outcome



Composition of hyperedges



P^{Id}



16 products

When

Q^{Id}

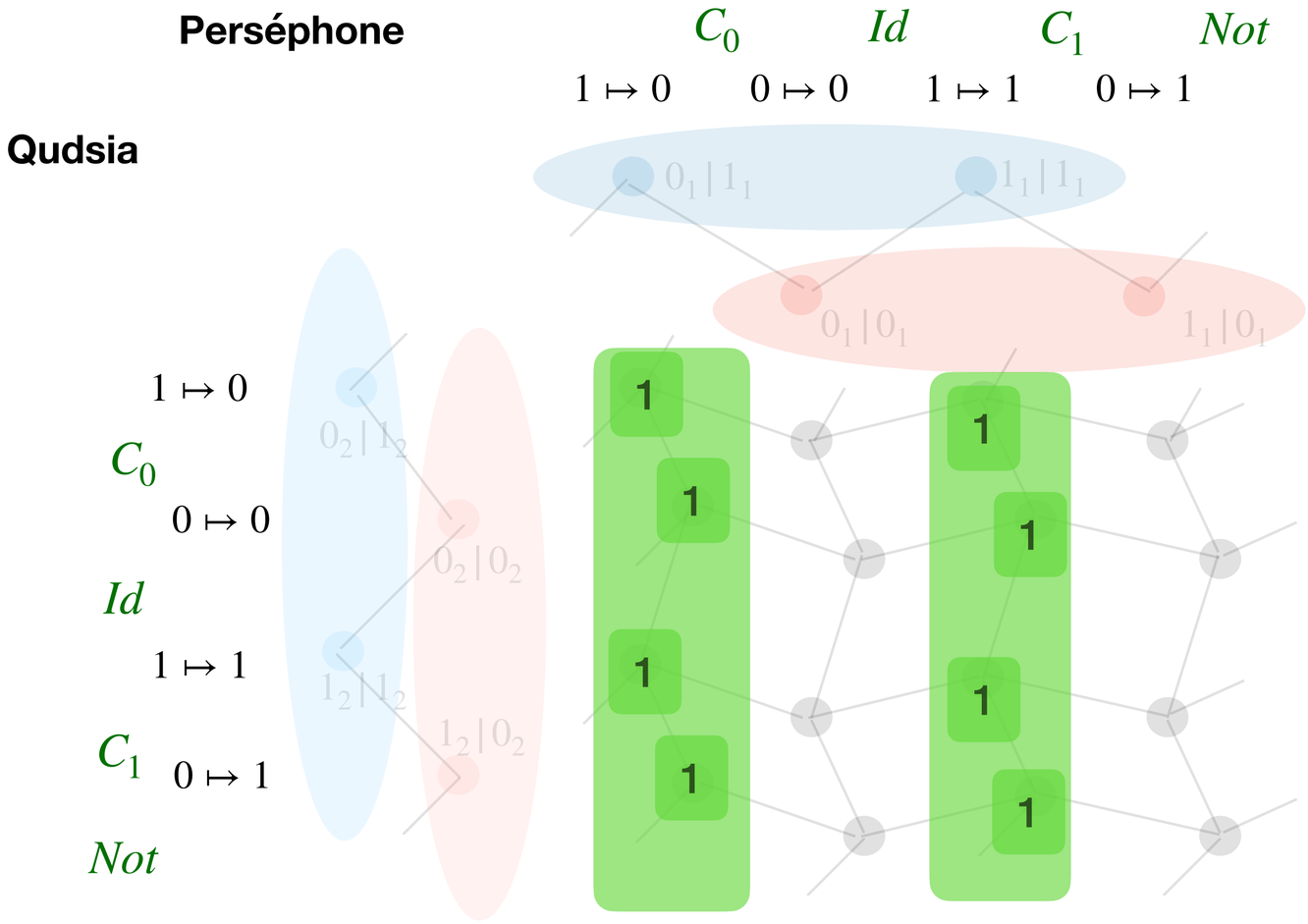
Of classical functions

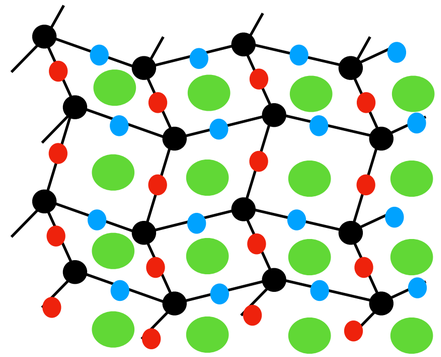
4 constraints when global

types or answers definable

k spatially separable observations with same count k-> k repeated explanation

Composition of hyperedges





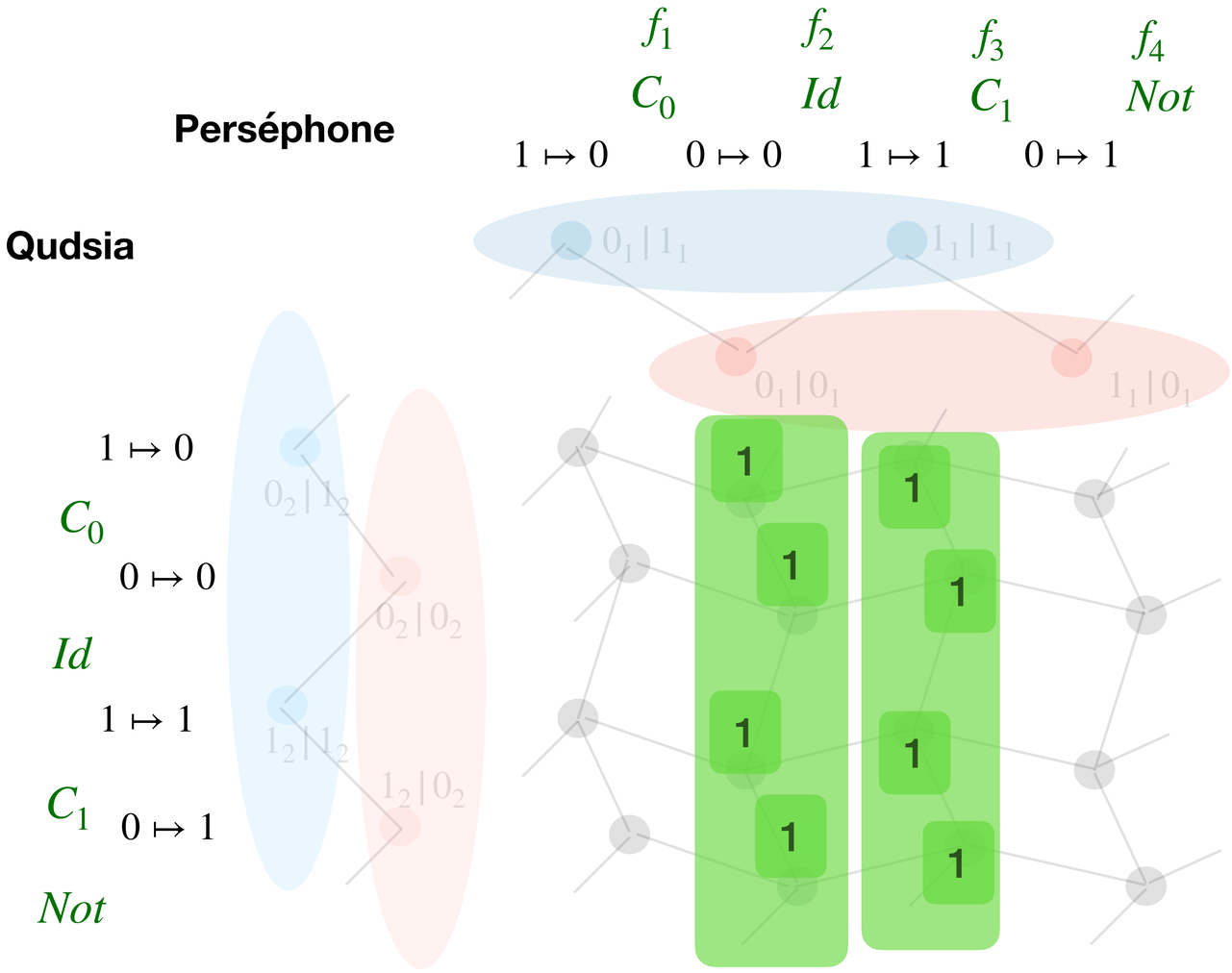
When

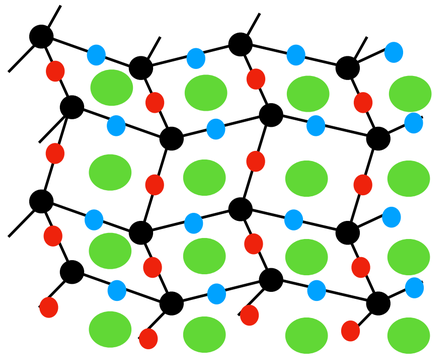
$$PE_P : t_P = 1$$

1/8 Event

Partial P t-specification

Composition of hyperedges





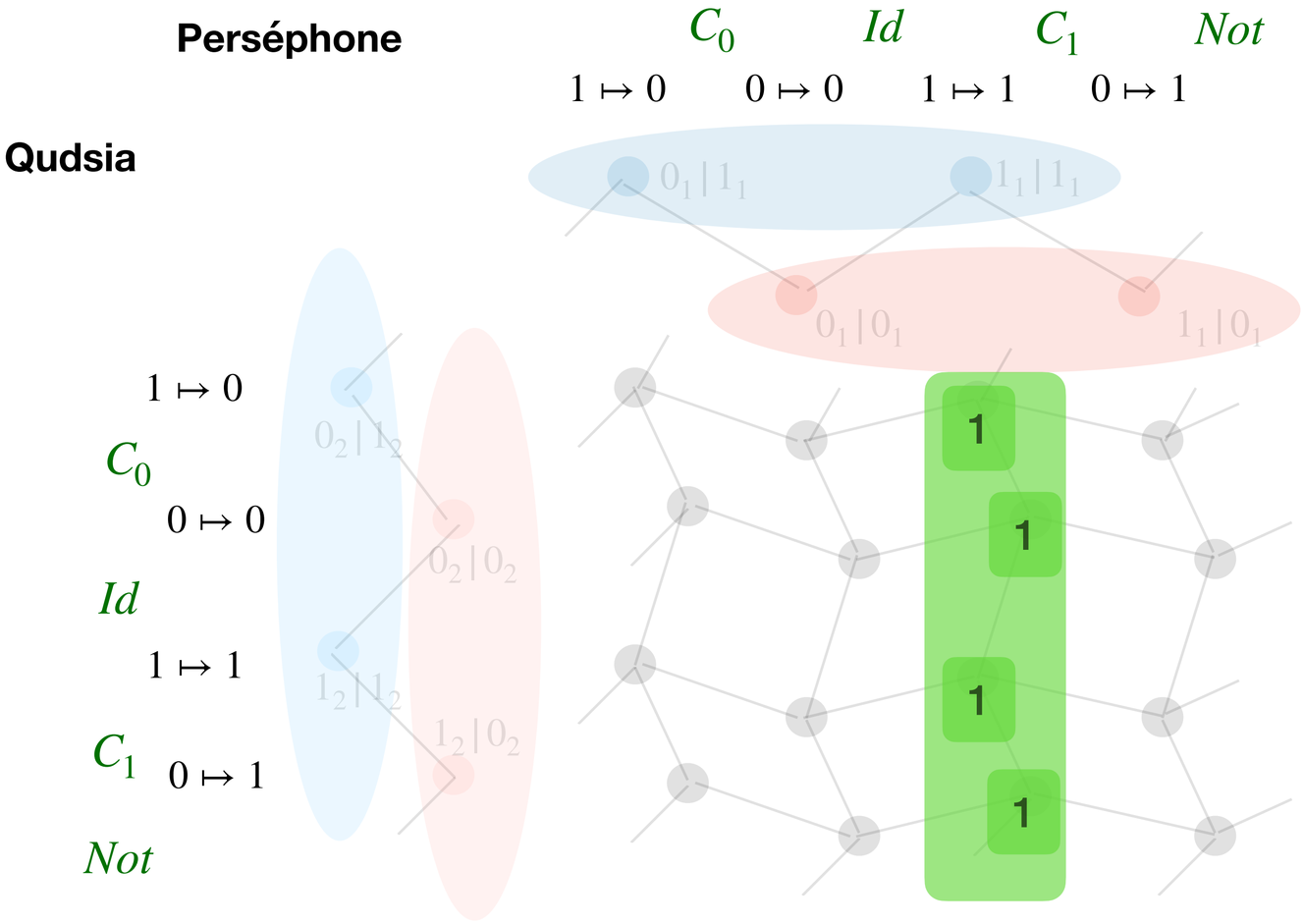
When

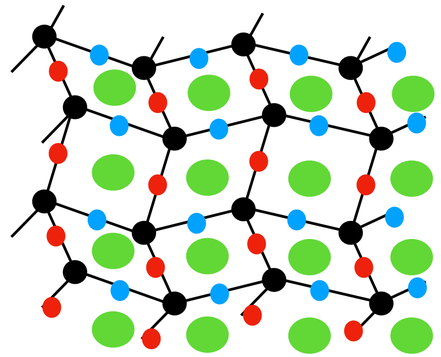
$$PE_P : a_P = f_2(t_P) = Id(t_P)$$

1/8 Event

Partial P a(t)-specification

Composition of hyperedges





When

$$PE_P : t_P = 1 \text{ and } a_A = 1$$

1/4 Event

Full P (t,a)-specification

Non Signaling

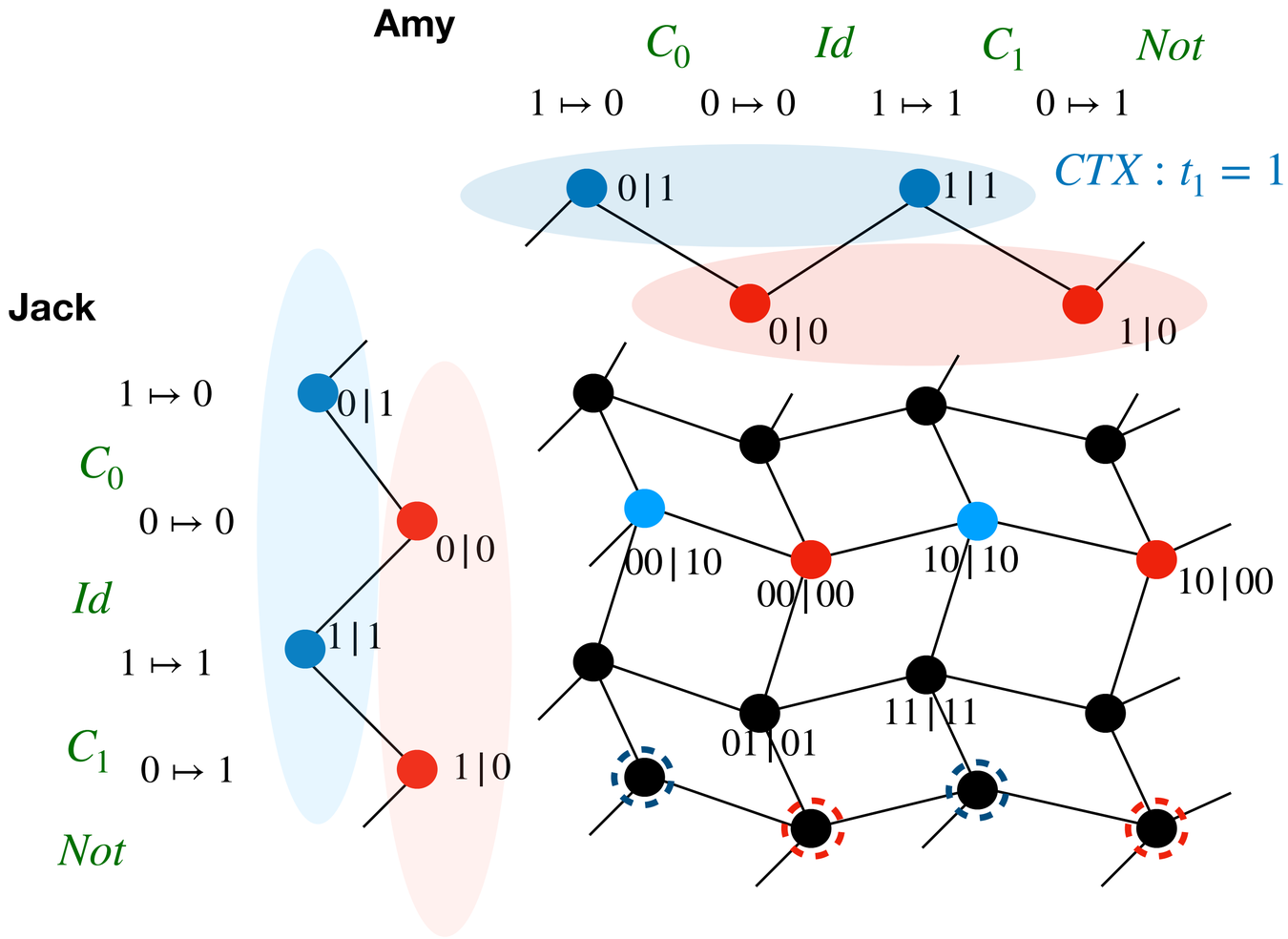
Assuming Qudsia kept a red ball

Qudsia had a blue ball Perséphone had a red ball

$$p(00\,|\,10) + p(10\,|\,10) = p(00\,|\,00) + p(10\,|\,00)$$

Assuming Qudsia had a red ball,
The probability that she keeps it should not depend on the type of ball presented to Perséphone

[AFLS] Vertical and horizontal equalities (Non signaling)
Are equivalent to Sum to one for Foulis Randall product



Non Signaling

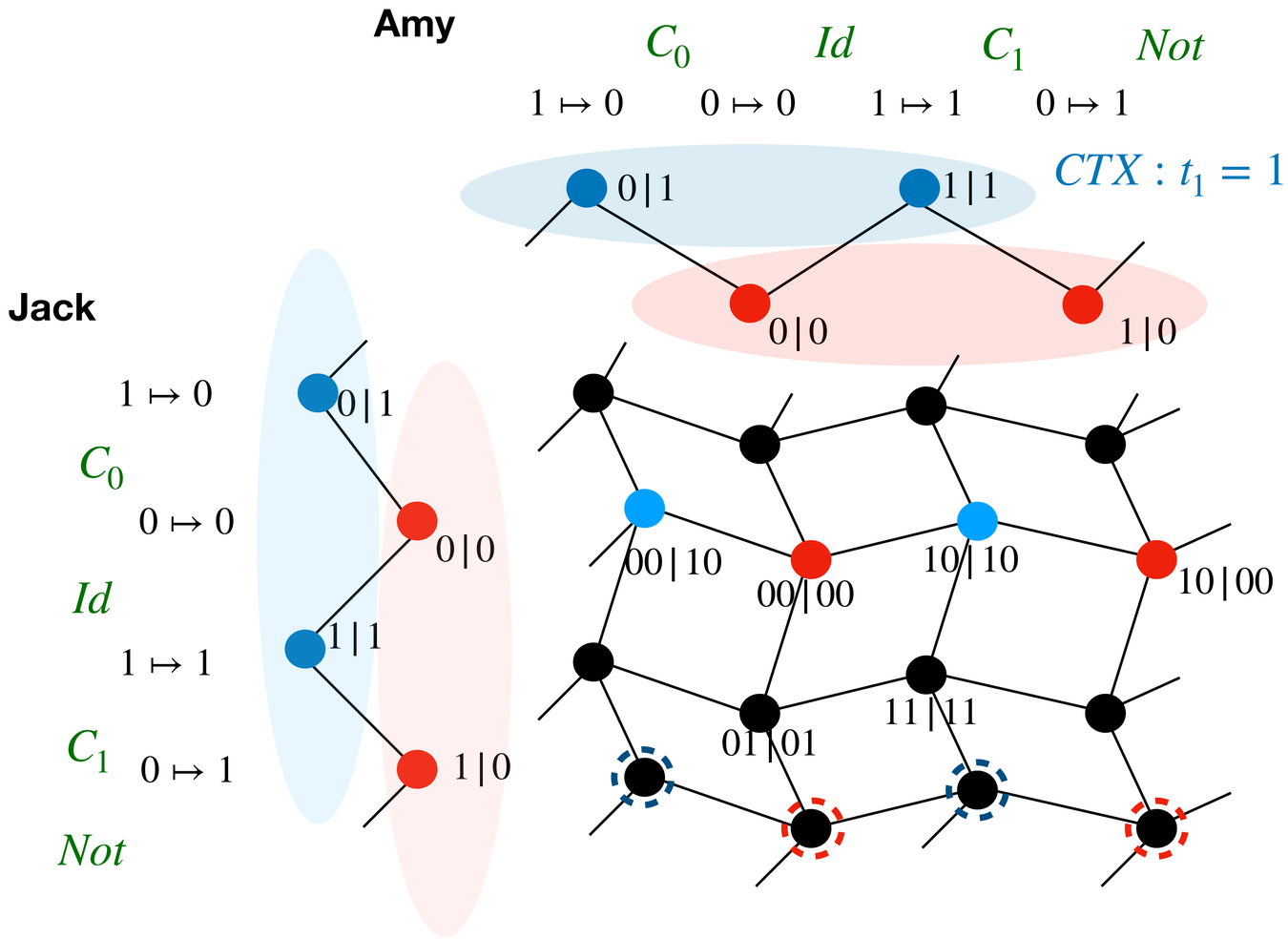
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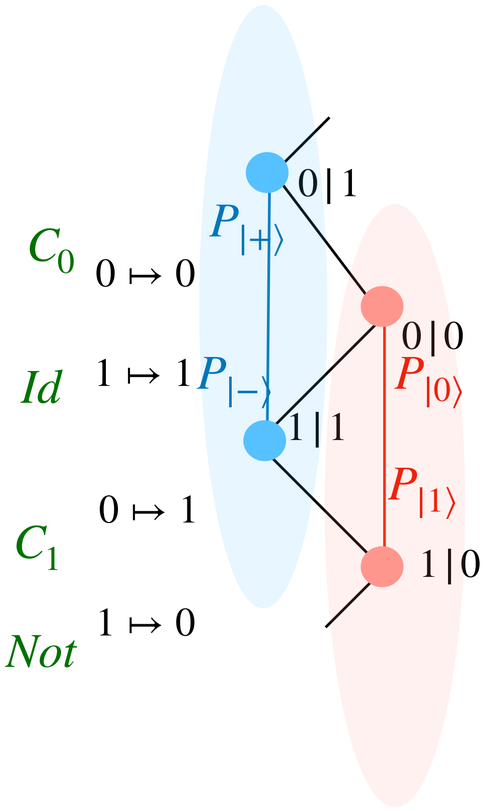


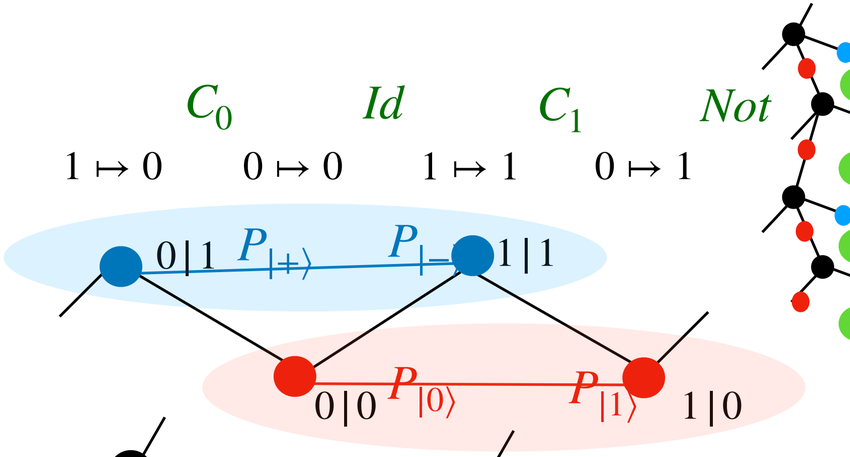
Quantum interpretations as one to two

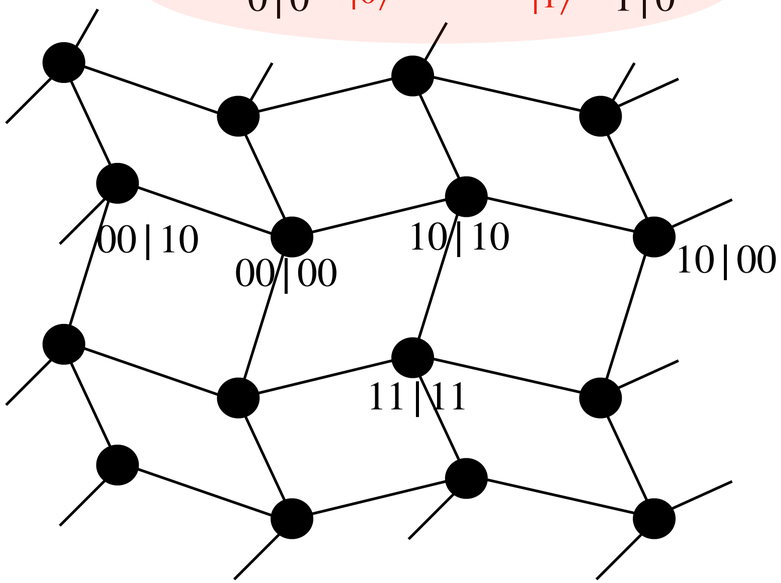
- Quantum
  - Space and state $\exists \mathscr{H}, |\psi\rangle\langle\psi|$
  - Map to projectors $v \mapsto P_v$
  - Induces an interpretation on all edges

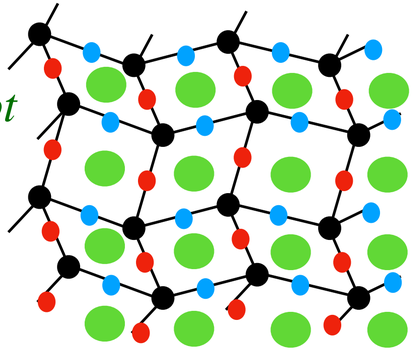
$$\forall e \in E(H), \sum_{v \in e} Pv = Id_e$$

- Interpretations of events are product of interpretation







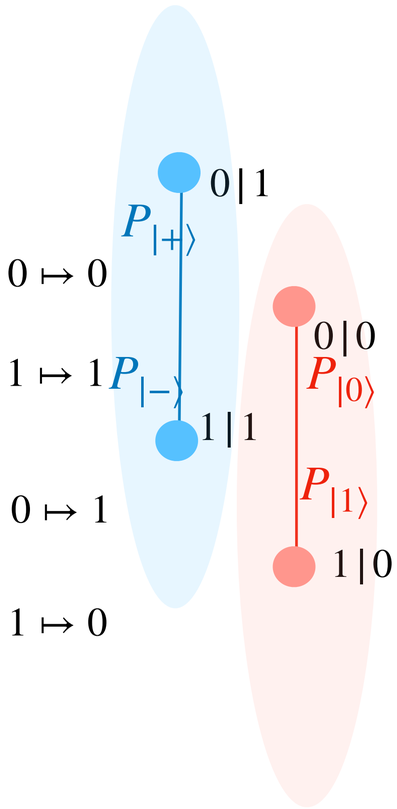


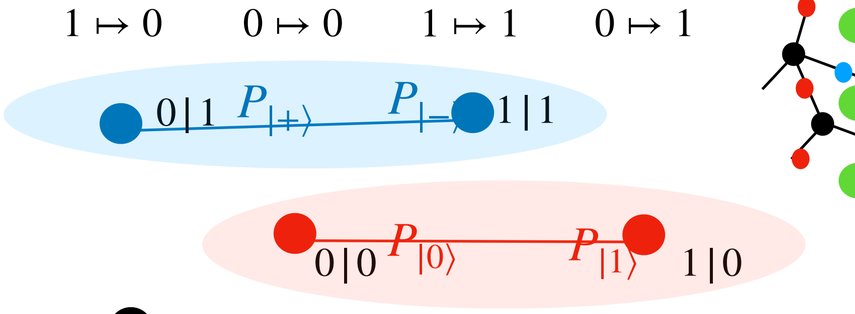
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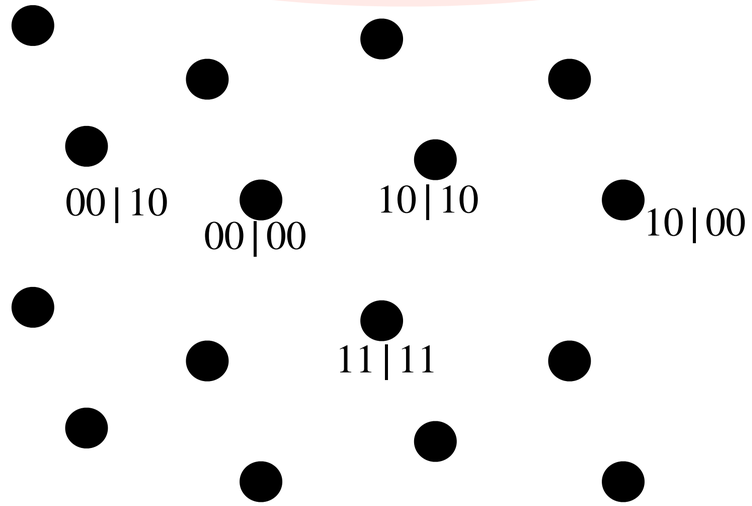
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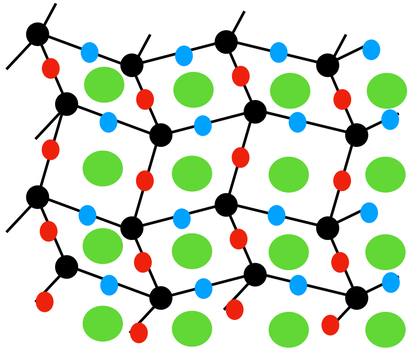
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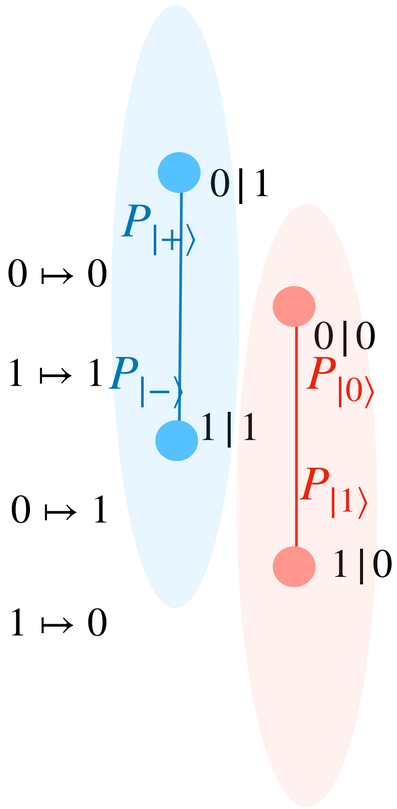


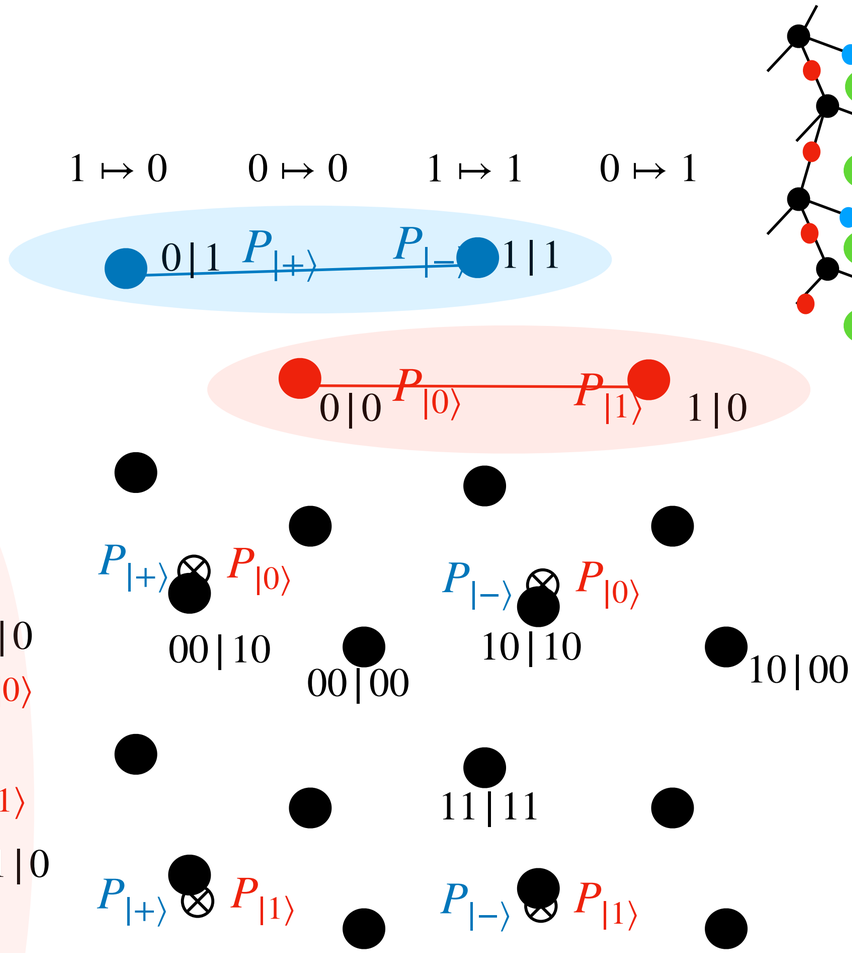
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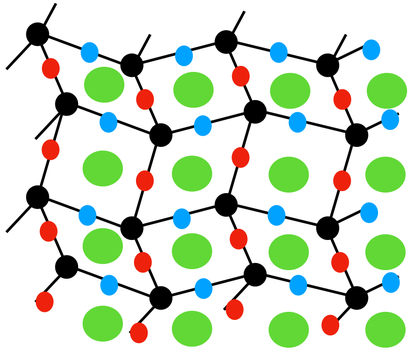
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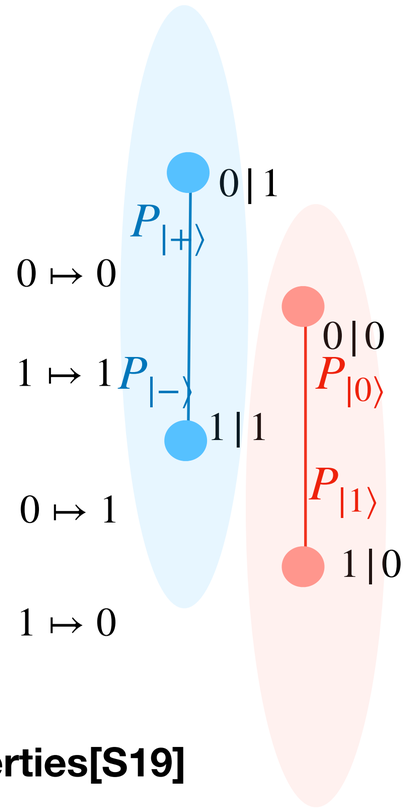


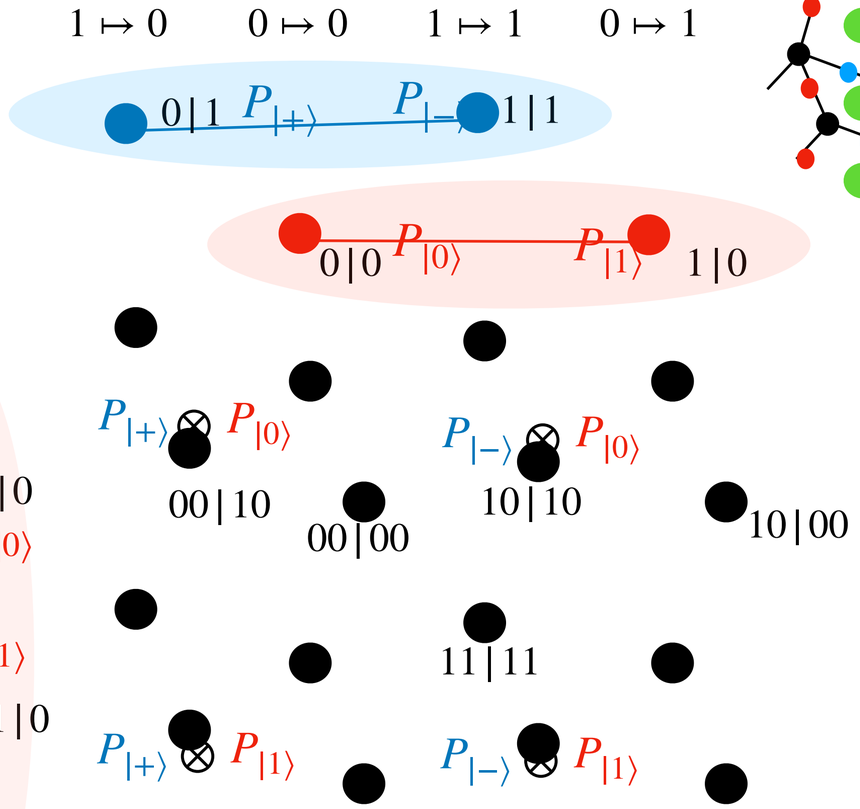
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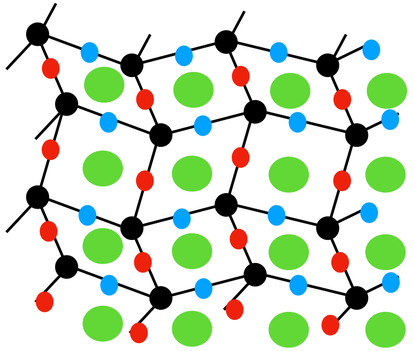
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Topologically different from commutation properties[S19]

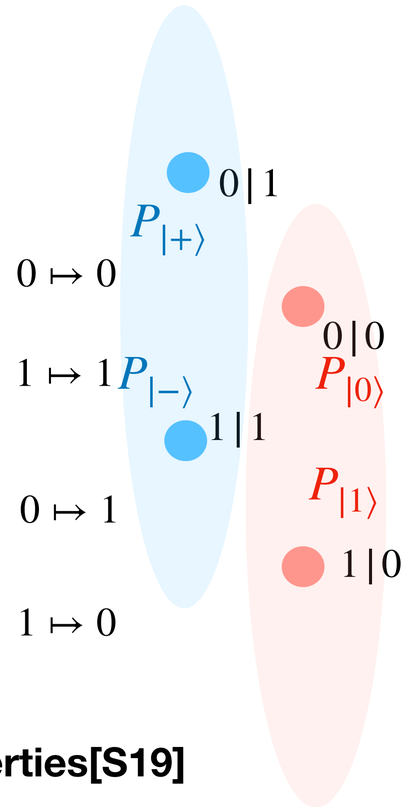
[S19]Slofstra The set of quantum correlations is not closed Forum of Mathematics

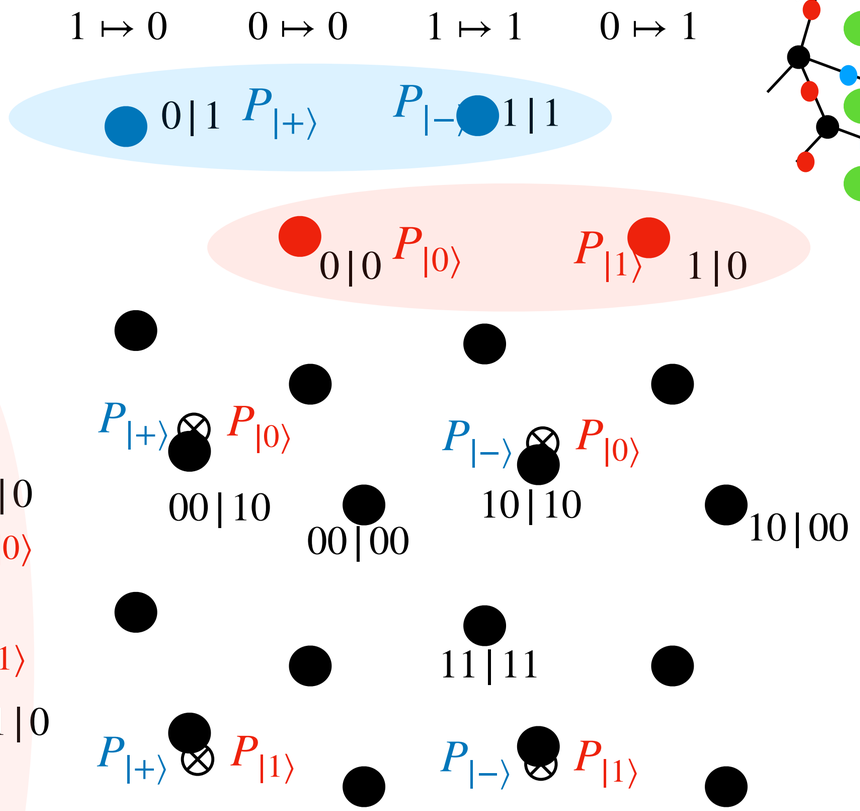
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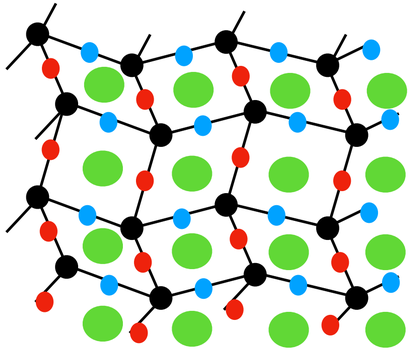
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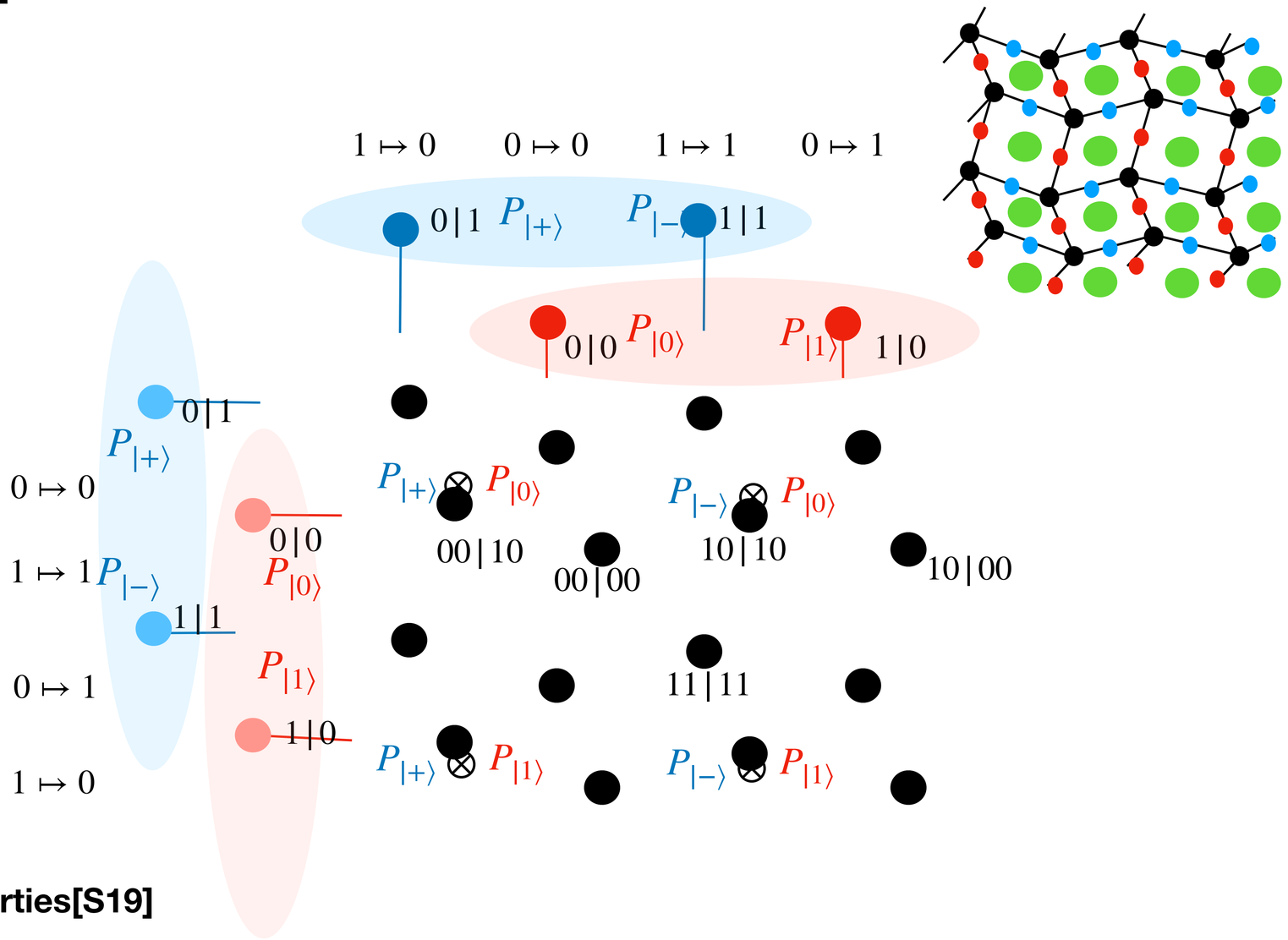
[S19]Slofstra The set of quantum correlations is not closed Forum of Mathematics

Quantum interpretations as one to two

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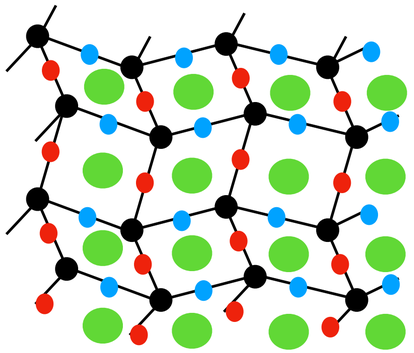
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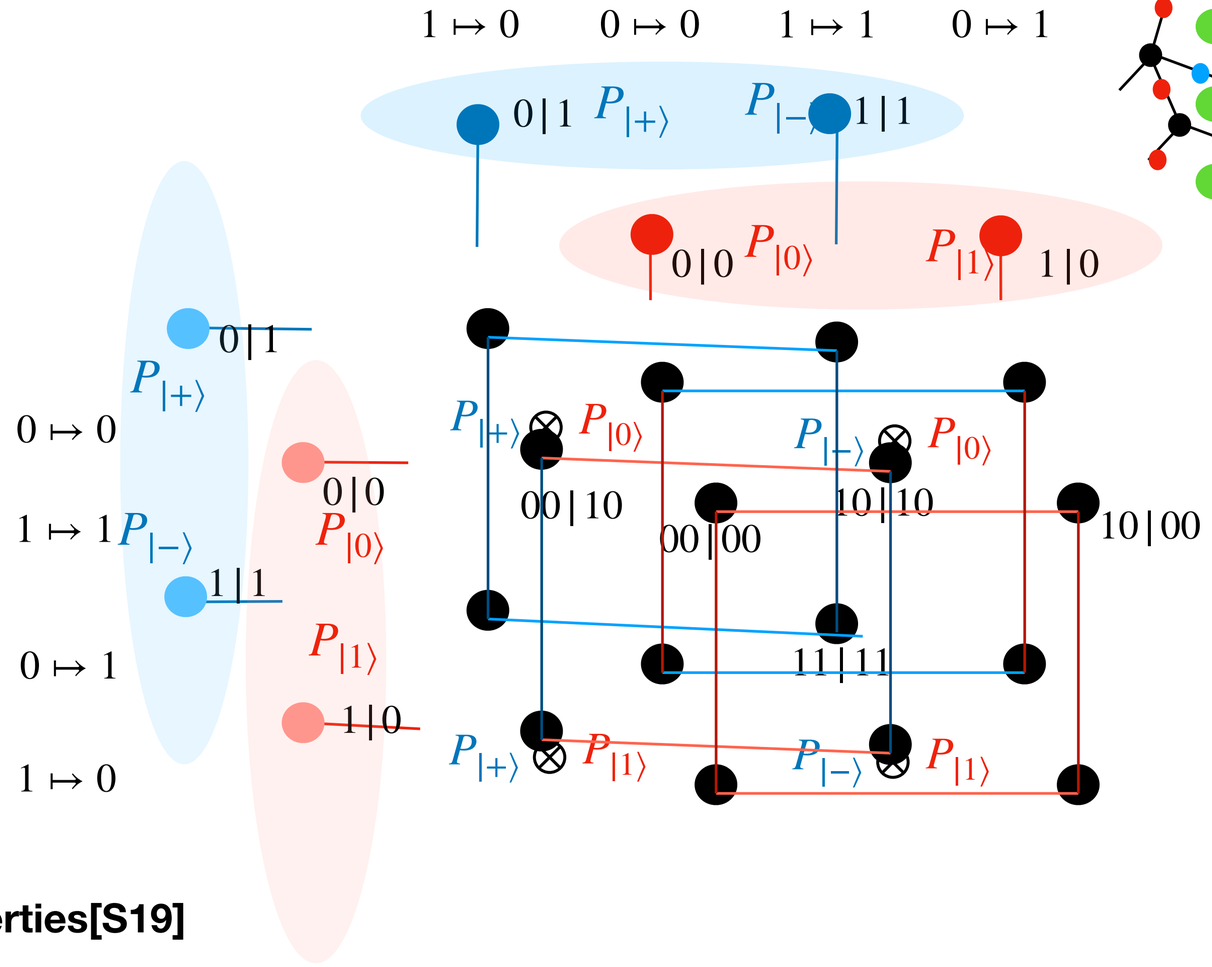
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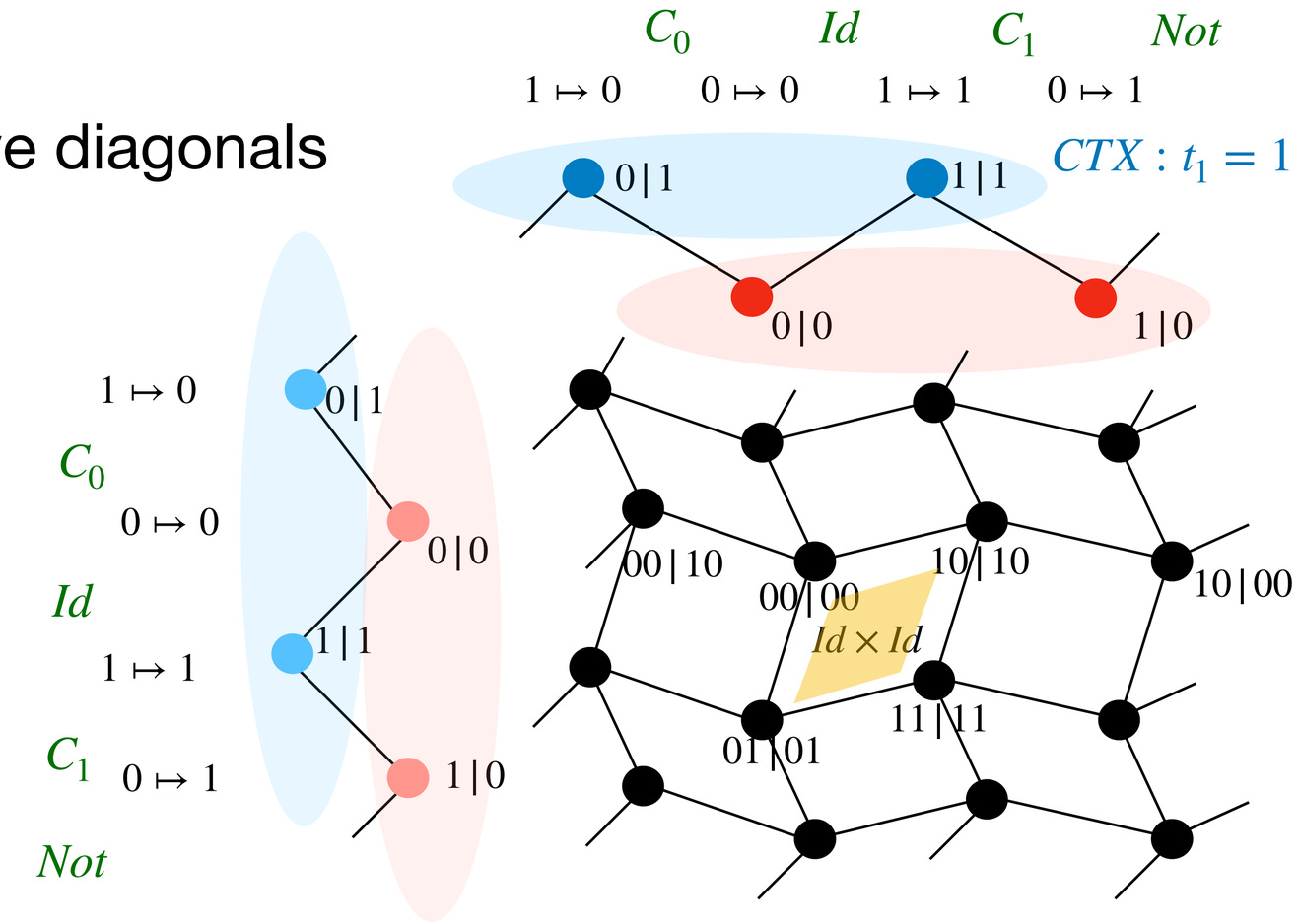


Topologically different from commutation properties[S19]

[S19]Slofstra The set of quantum correlations is not closed Forum of Mathematics

Extremal Non signaling

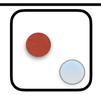
Forbidding two consectutive diagonals



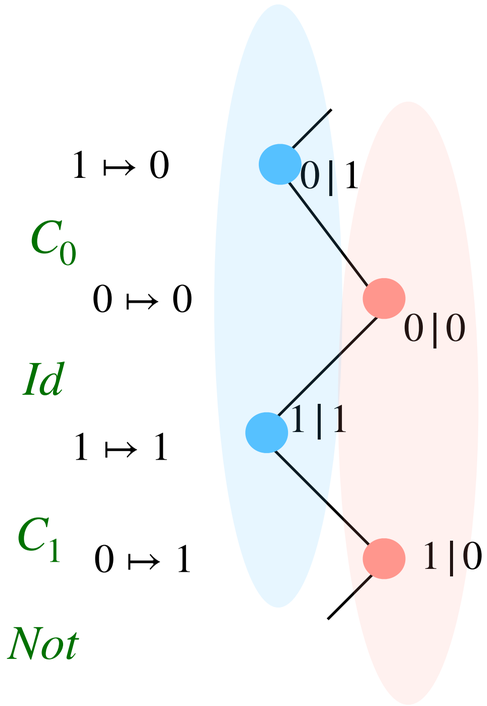
[PR94] Quantum nonlocality as an axiom Foundation of Physics

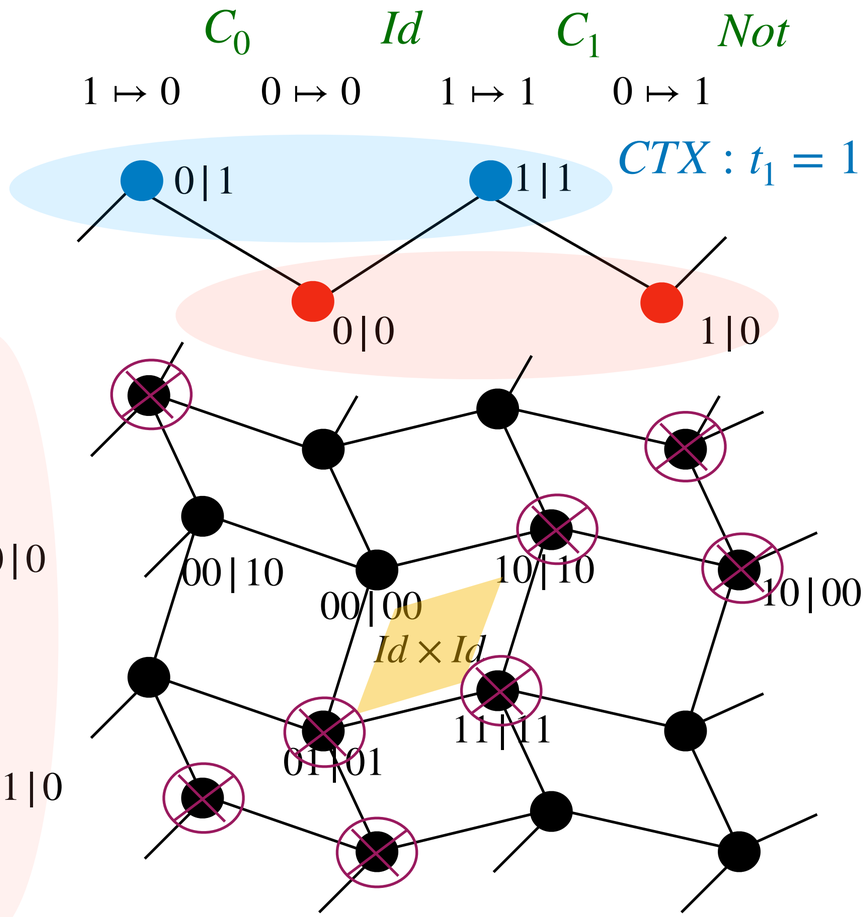
Extremal Non signaling

Forbidding two consectutive diagonals

Presented set	Set given back in total
	 
	
	

PR Box Losing configurations

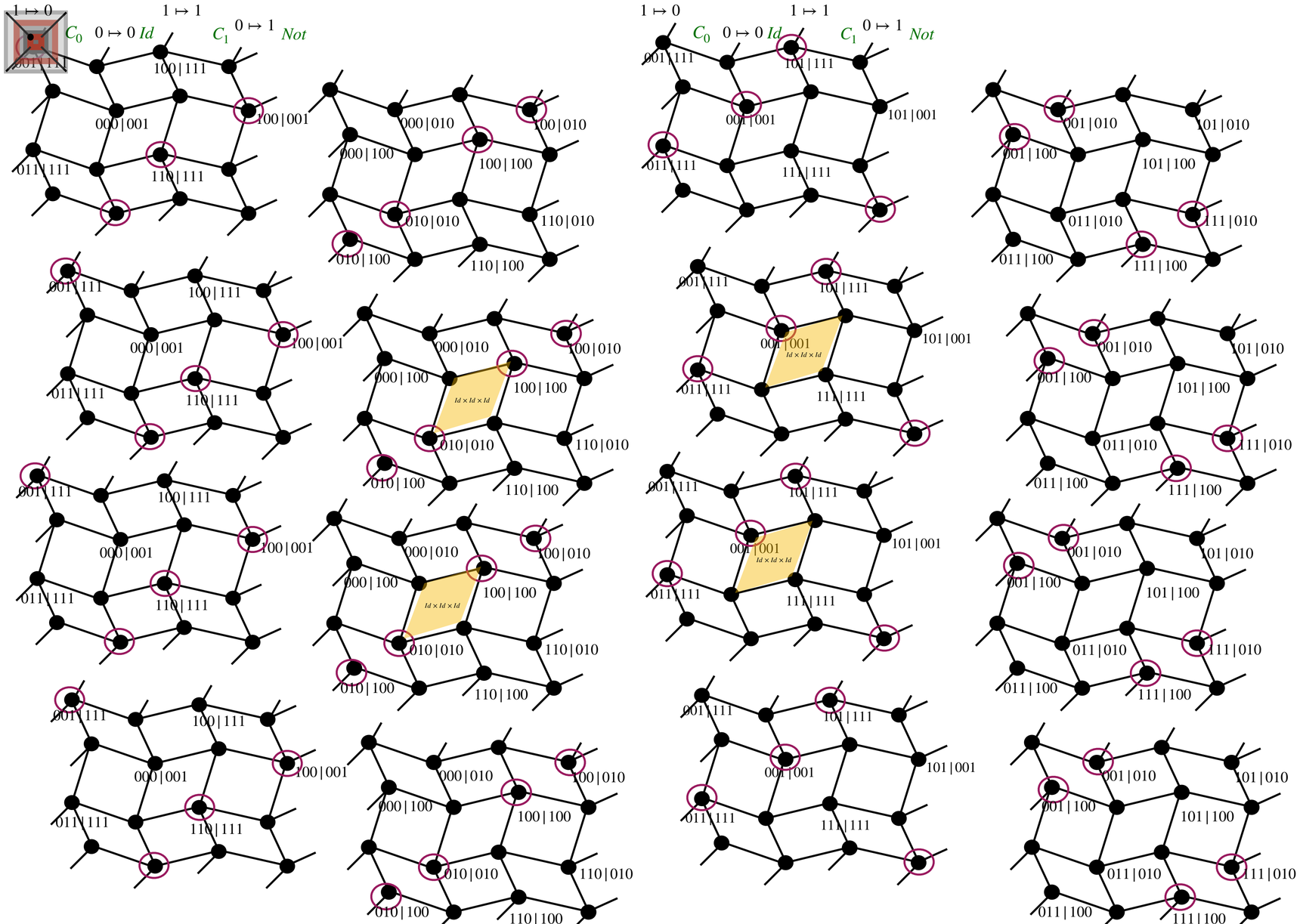




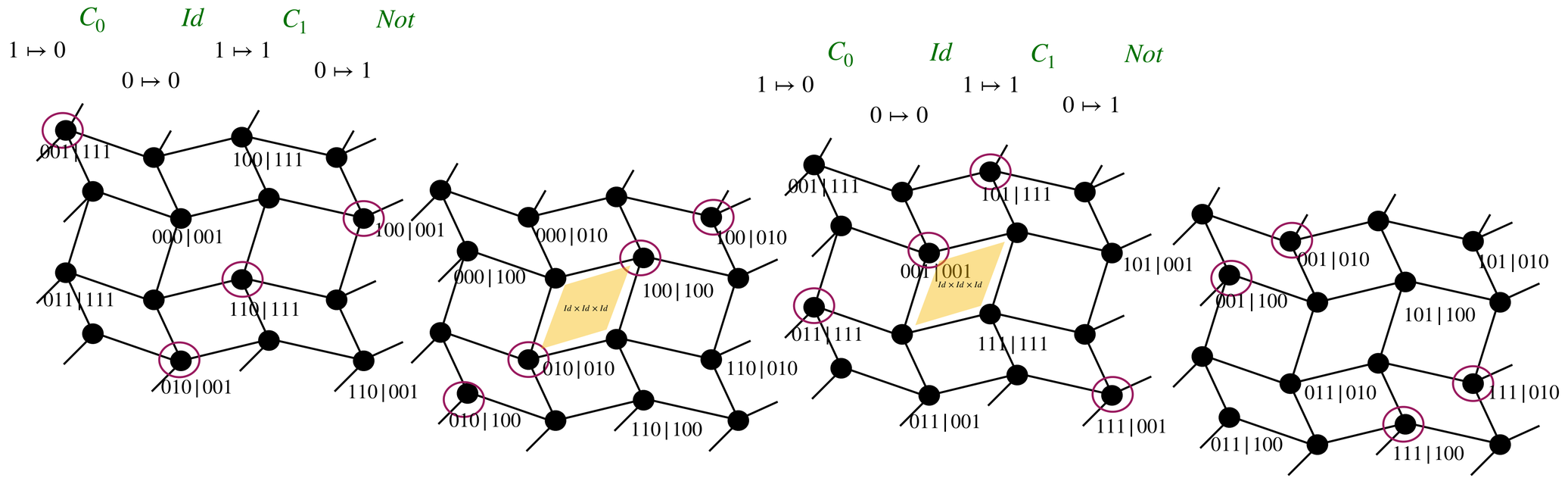
PR Box game $a_1 + a_2 \bmod 2 = t_1 t_2$

[PR94] Quantum nonlocality as an axiom Foundation of Physics

More players

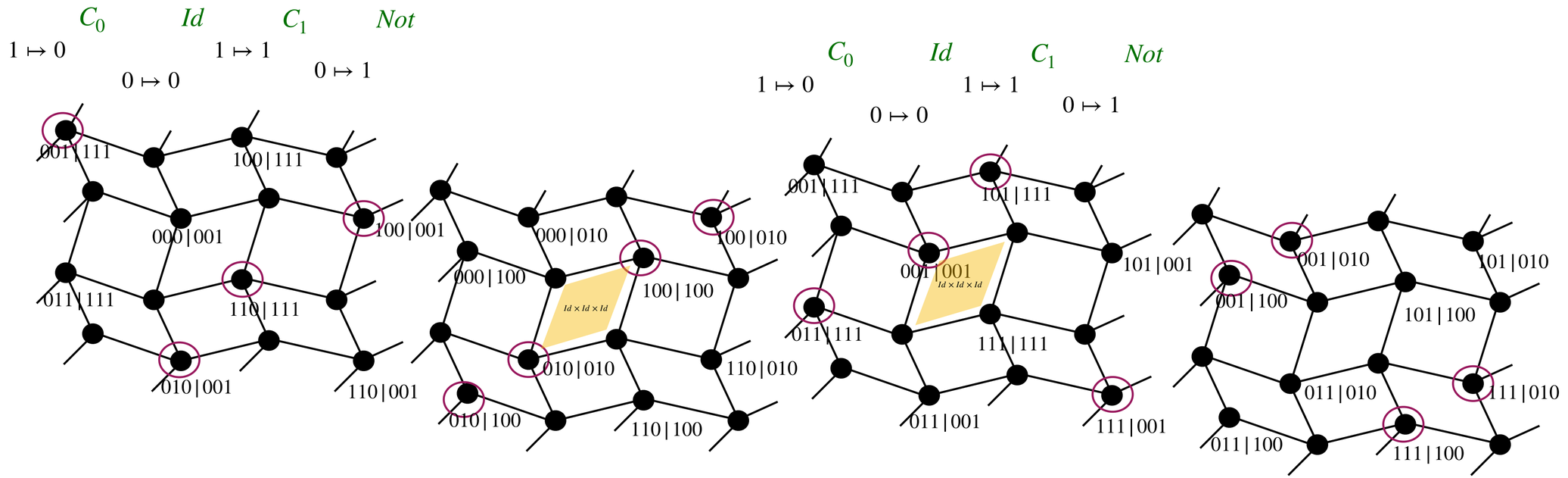


Non Signaling / Belief Invariance / Consistant information /Indistinguishable causality



Triangle game losing events

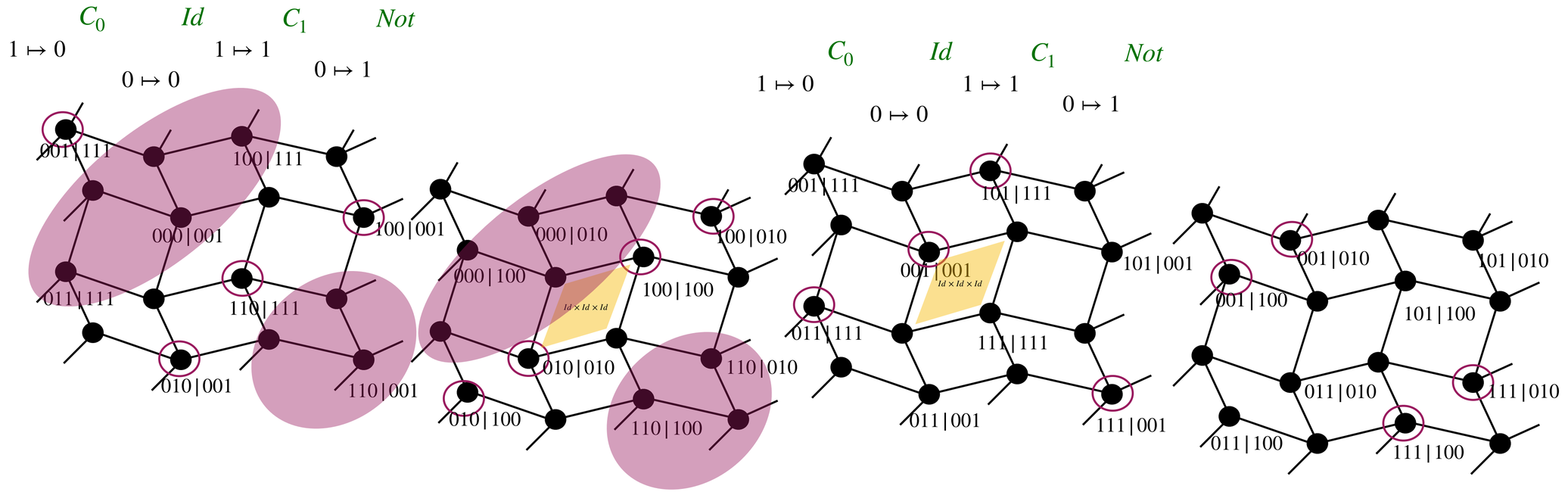
Non Signaling / Belief Invariance / Consistant information /Indistinguishable causality



Triangle game losing events

Is it « truly » tripartite ?

Non Signaling / Belief Invariance / Consistant information /Indistinguishable causality



If Dolores never give back any ball and
Perséphone and Qudsia « use » a PR box they always win

Triangle game losing events

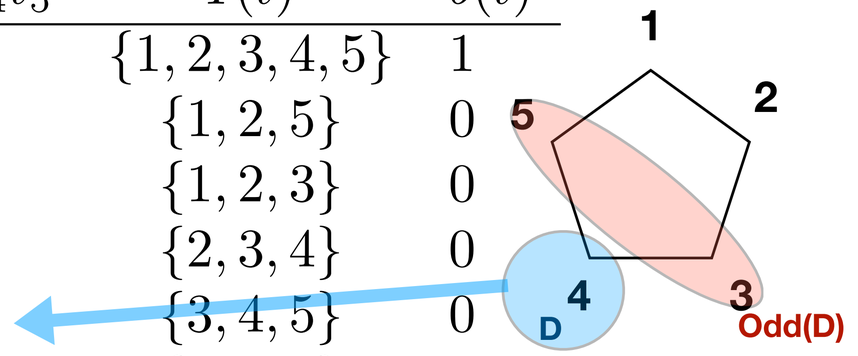
Is it « truly » tripartite ?

How large your boxes needs to be to beat quantum?

[BP05]

MCG (C_5) game can not be won by players having bipartite correlations boxes

$t_1t_2t_3t_4t_5$	$I(t)$	$b(t)$
11111	$\{1,2,3,4,5\}$	1
10000	$\{1,2,5\}$	0
01000	$\{1,2,3\}$	0
00100	$\{2,3,4\}$	0
00010	$\{3,4,5\}$	0
00001	$\{4,5,1\}$	0



k-partite PR Box

$$\sum_{a_i} P(a_1, a_2 \ldots a_k \,|\, t_1, \ldots t_{i-1}, 0, t_{i+1} \ldots x_k) = \sum_{a_i} P(a_1, a_2 \ldots a_k \,|\, t_1, \ldots t_{i-1}, 1, t_{i+1} \ldots t_k)$$

[AHMP17]

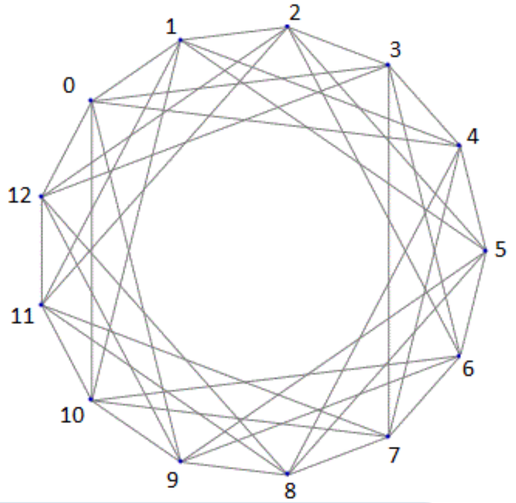
Non Signaling + Games restrictions : contextuality scenarios (hypergraphs)

A k multipartite depth interpretation of a contextuality scenario is a probability distribution producible using k-partite PR Boxes and shared random variables

A Hypergraph has multipartite depth k if it has a k partite interpretation but no k-1 interpretation

[BP05] Barrett and Pironio PR correlations as a unit of non locality

Multipartiteness width



[AMHP17]

Probability of quantum MCG strategy $P(a\,|\,t) = \begin{cases} 0 & \text{if } (a,t) \in \mathscr{L}, \\ \dfrac{|\{D \text{ involved in } t\}|}{2^{|V|}} & \text{otherwise.} \end{cases}$

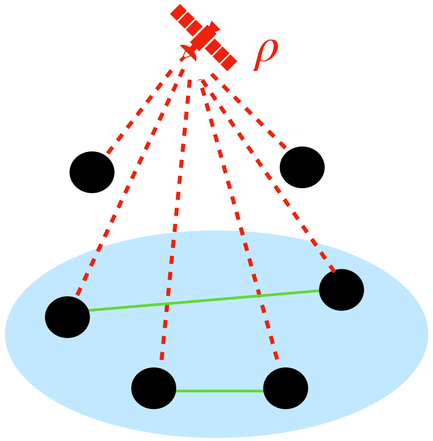
[AMHP17]
Simulating the MCG correlation can be reduced to never losing with shared random variables at neighbourhoods

[AHMP17]

In theory linear, at least logarithmic in practice
There exists Graph states producing correlations 0.11n multipatite depth correlations
Games from Paley graphs on n verices have $\Omega(\log(n))$ **multipartite depth correlations**

Vertex-minor universality

n=6 , k= 4



Create a quantum network
With local one qubit operations

2 EPR pairs

[BS04] Pairability

Given n how big can k be so that any subset of k pairs can be obtained by Local Operations and Classical Communication?
What are the most useful states to send ?

Construction using Reed Muller codes with $n = 2^{3k}$

What about generating any Graph state?

[BS04] S.Bravyi, Y.Sharma, M.Szegedy, and R.de Wolf. Generating k EPR pairs from an n party resource state Quantum

Degree loss: 2 in theory 4 in pratctice

Graph states from projective planes and their reductions

The Projective plane

$$n = 2(q^2 + q + 1)$$

Points: 1 dimensional subspaces of $\mathbb{F}_q^3$

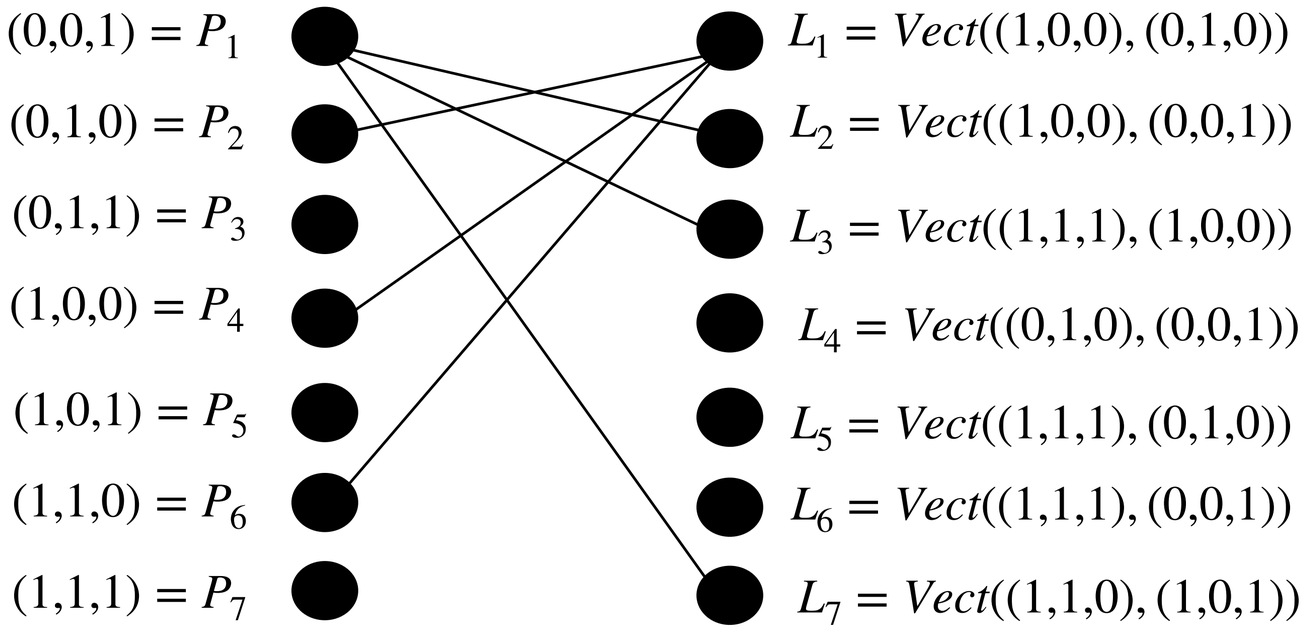
Lines: 2 dimensional subspaces of $\mathbb{F}_q^3$

Each line contains q+1 points
Each point is in q+1 lines

$\varphi-$**reduction**

$\varphi : L(G) \to R(G)$ **and** $V(G_\varphi) = L(G)$

φ **bijective and**
symmetric $(a, \varphi(b)) \in E(G) \Leftrightarrow (b, \varphi(a)) \in E(G), \forall a, b \in L(G)$



[CCMPVS24]

The projective plane and its symmetric bijective reductions achieve $k = \Theta(n^{1/4})$ **probabilistic constructions** $k = \Theta(n^{1/2})$
With High probability

Corollary The associated MCG scenario has polynomial multipartiteness width

Degree loss: 2 in theory 4 in pratctice

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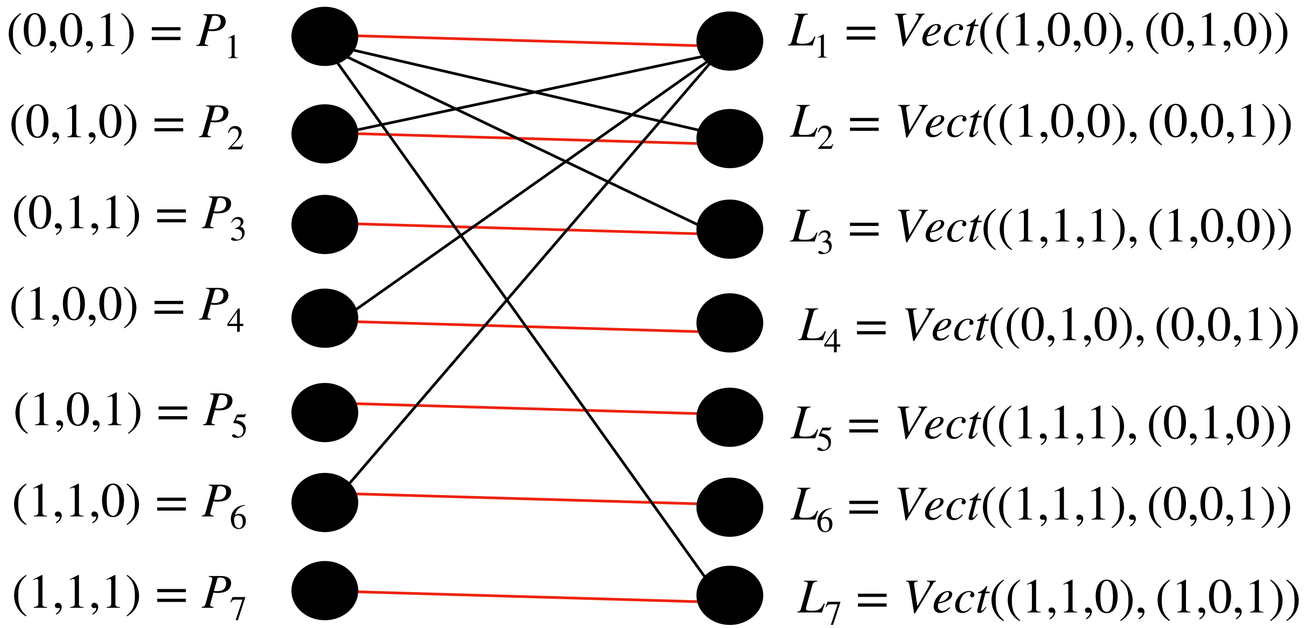
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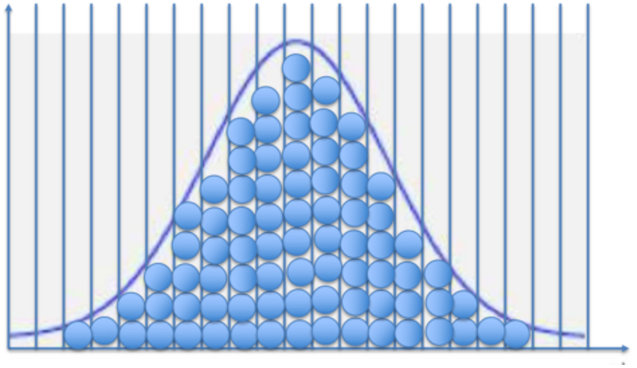
Corollary The associated MCG scenario has polynomial multipartiteness width

How much depends on how we define then count ?

A probabilistic description tells us which observable behaviours are compatible with a model under perfect reproducibility limit.

But how much of the mechanism producing those behaviours does it retain?

From ontological descriptions to adaptatives paths of transformations



- What are accepted histograms for a theory ?
- Which transitions are admissible forward, and backward ?
- How to evaluate as path of meaningful transformations ?

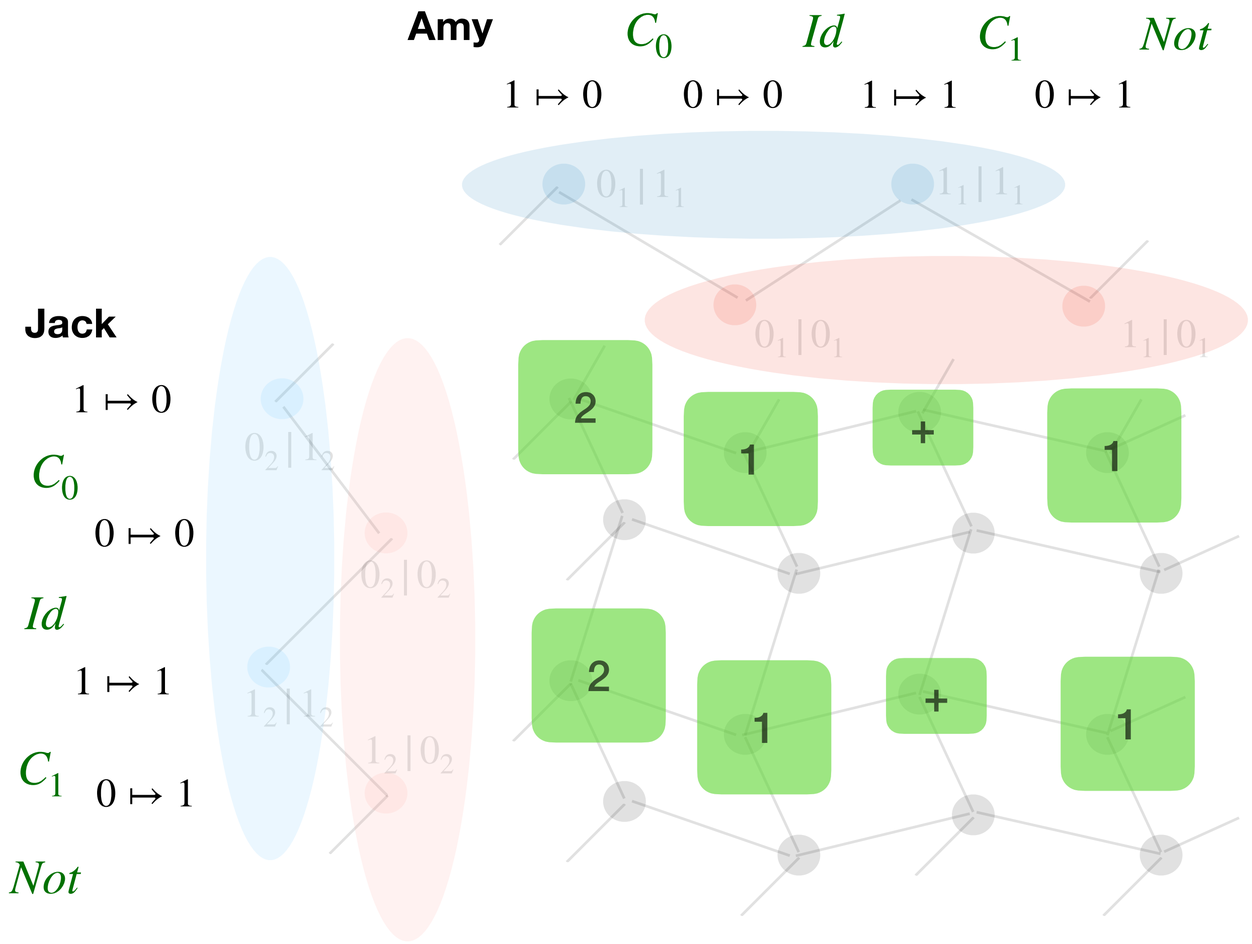
Potential errors from observation

Potential errors from

How is and what could be lost in interlacing two error models

language expressivity limitation

Dynamical automata for events



When

$$E_J J : t_J = 0$$

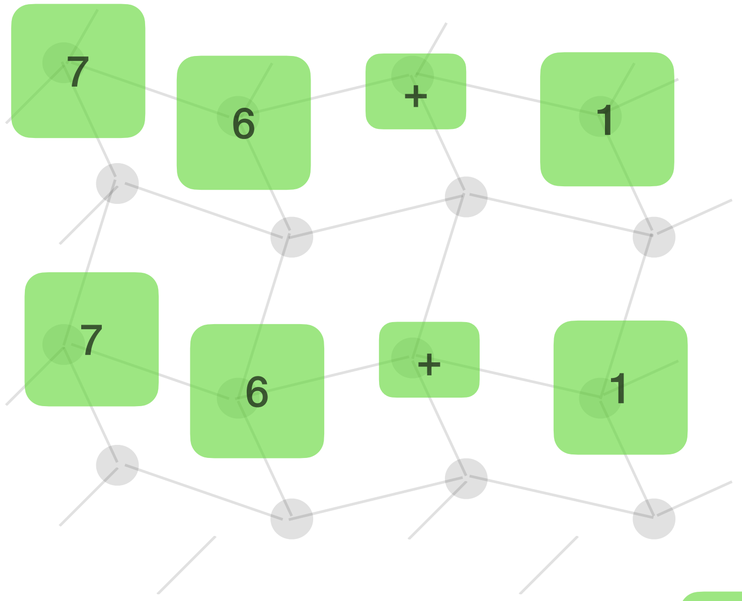
Then $E_A A : a_A \neq 1$

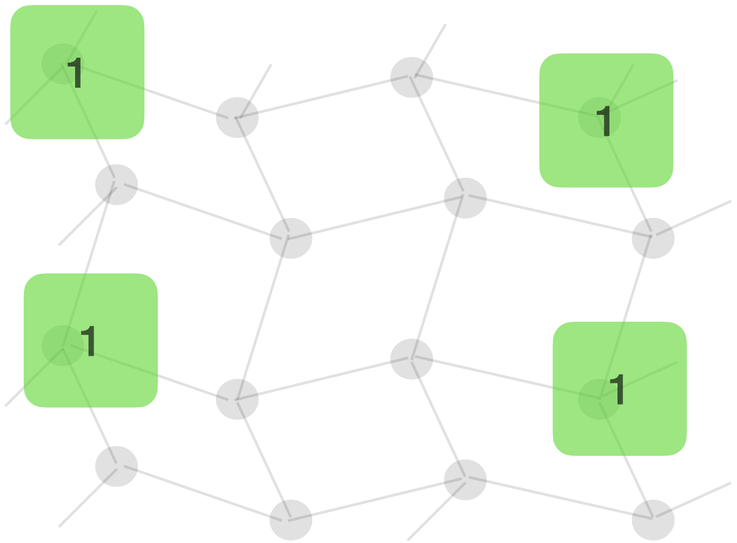
$$P^A_{|+\rangle}$$

Deterministic vs Uniform

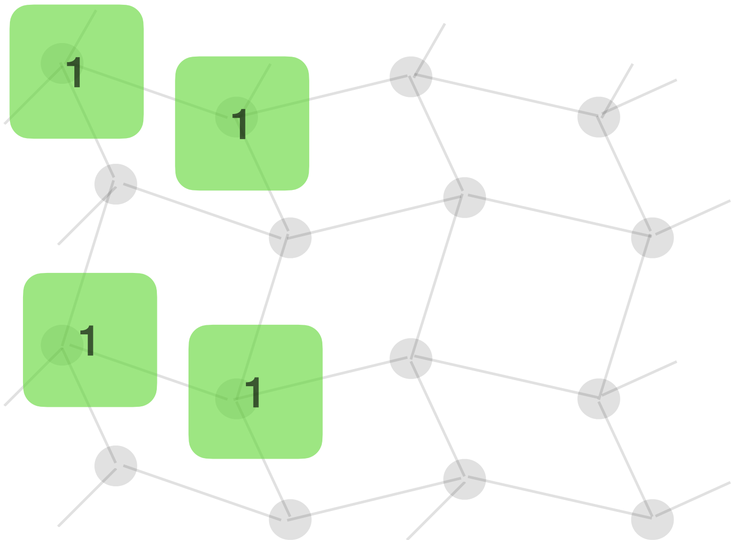
Dynamical automata for event counts

Acceptable generators

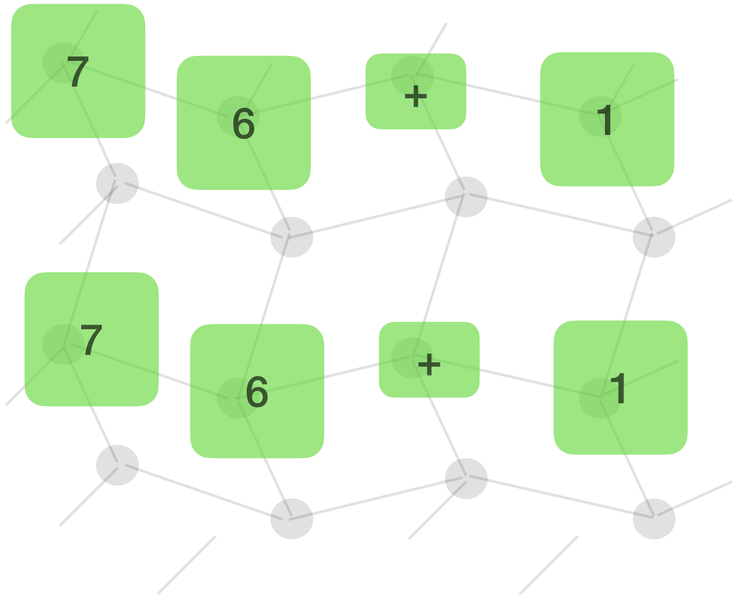




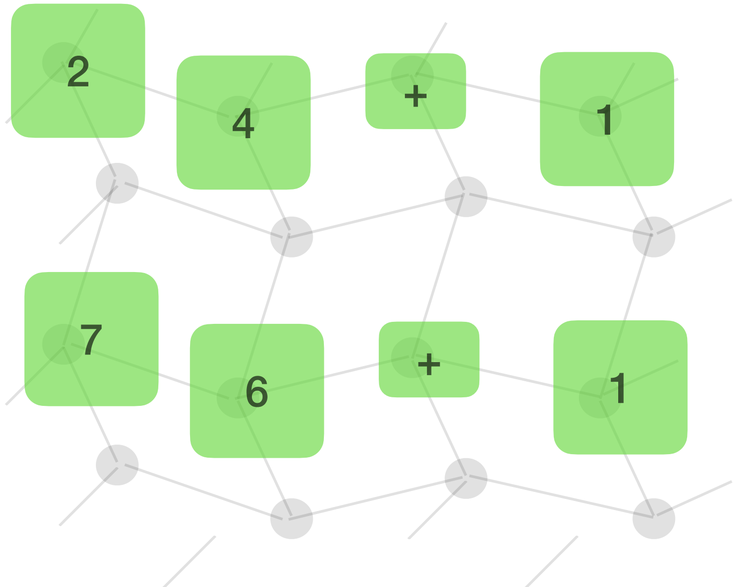
+



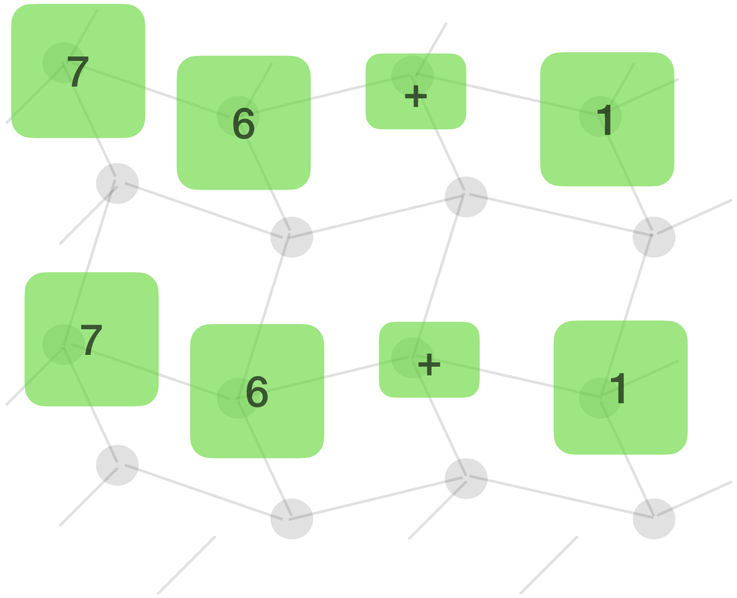
Dynamical automata for event counts



Interpretation not yet generator

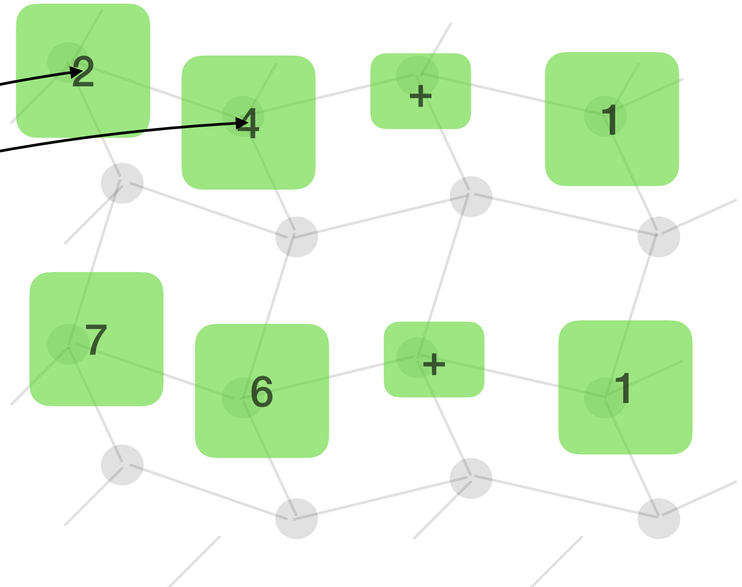


Dynamical automata for event counts

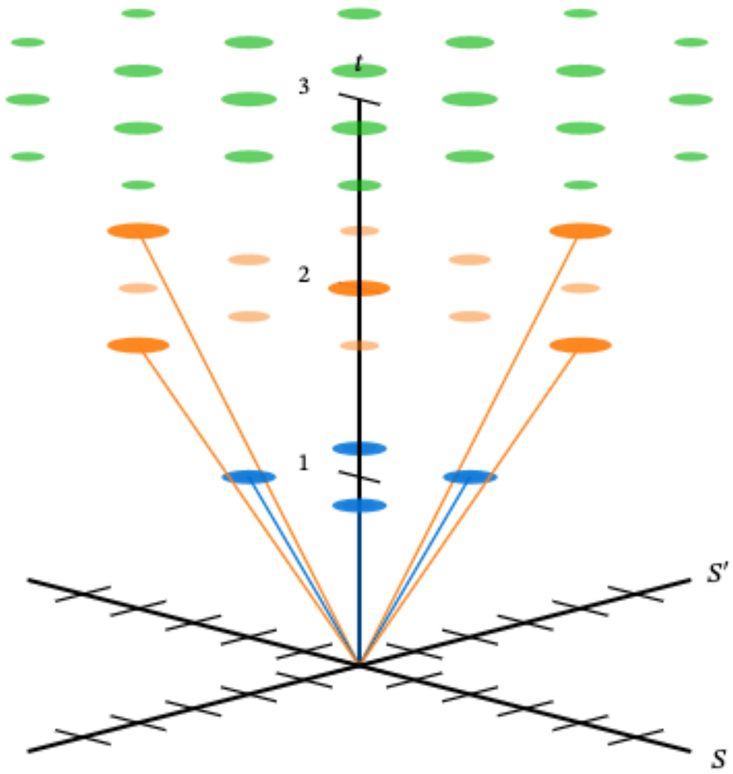


Interpretation not yet generator

Next candidates

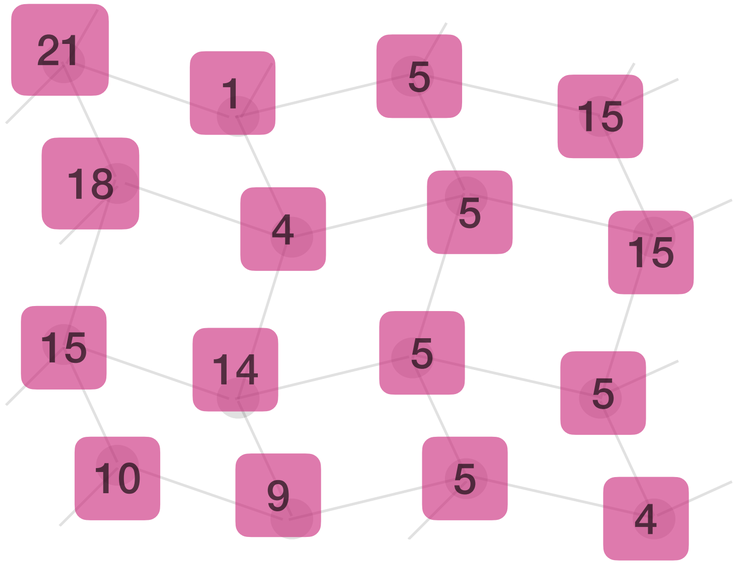


Dynamical automata



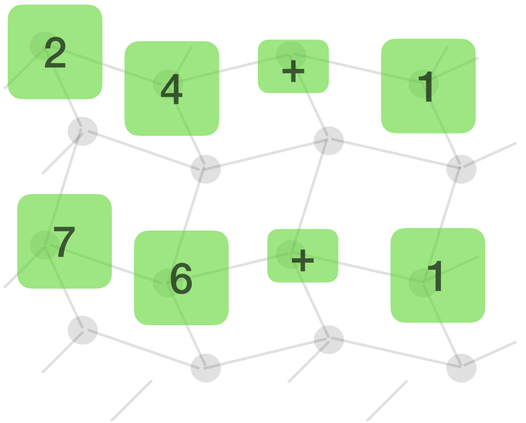
[T26] Louis Triouleyre Master

Paths from experiments

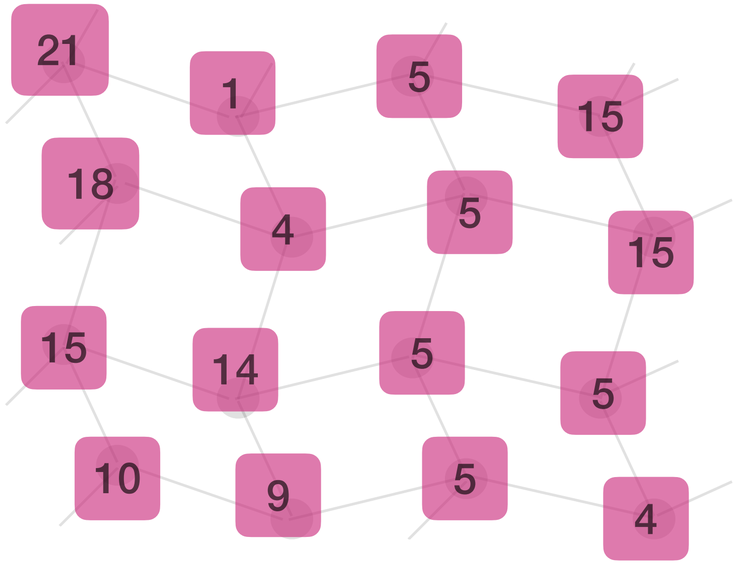


Fit by add

Fit by remove



Paths from experiments

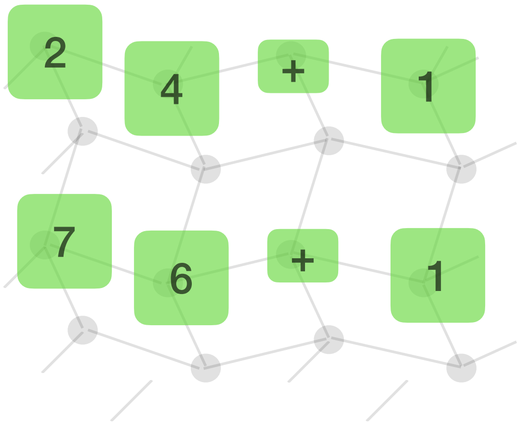


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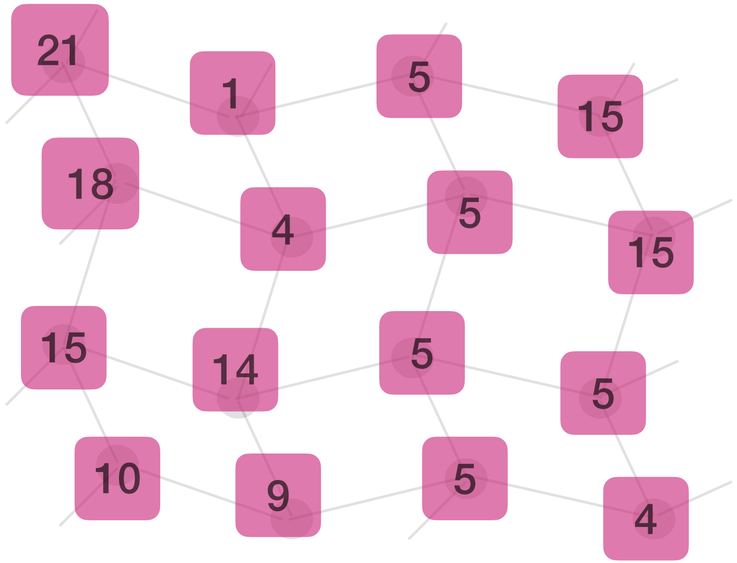
+2

+5



lcm by meaningful explanation: 10 steps

Paths from experiments



Fit by add

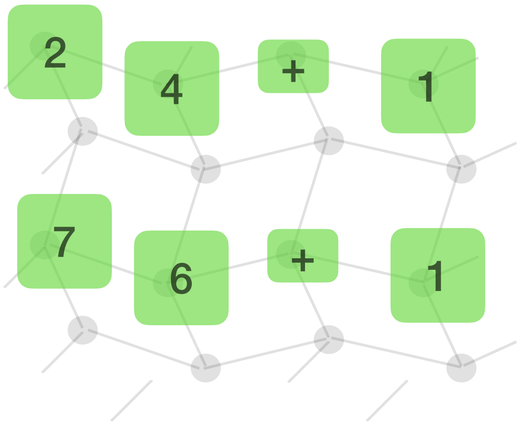
Next?

Previous?

Fit by remove

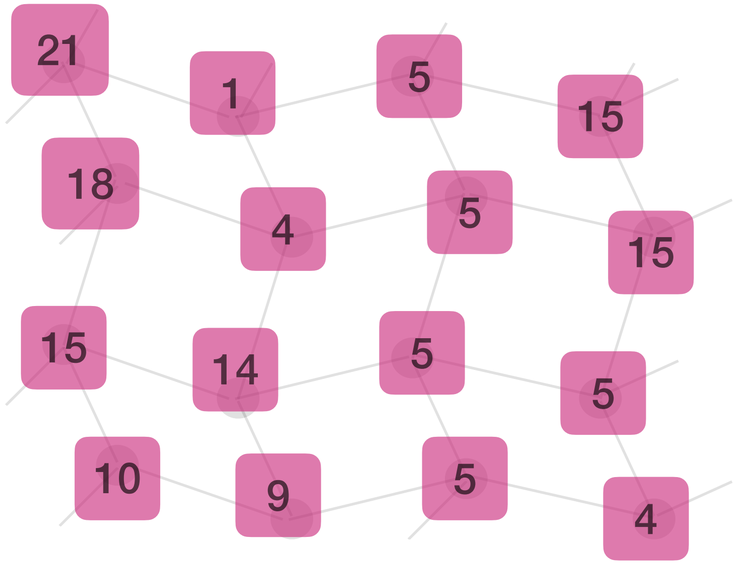
+2

+5



lcm by meaningful explanation: 10 steps

Paths from experiments



Fit by add

Next?

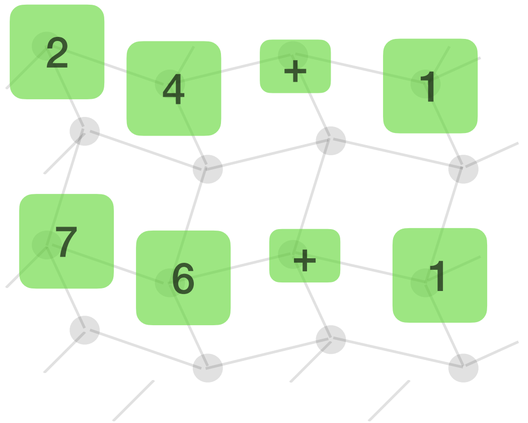
Path evaluation

Previous?

Fit by remove

+2

+5



lcm by meaningful explanation: 10 steps

Dynamical automata

Sheaf theory (probabilistic)	Our framework (integer)	Relationship
$e_C \in \mathcal{D}_{\mathbb{R}}(\mathcal{E}(C))$	$N_C \in \mathbb{N}^{\mathcal{E}(C)}$	$e_C = \frac{N_C}{t}$
$\sum_s e_{C(s)} = 1$	$\sum_s N_{C(s)} = t$	normalization
$S_e^{\geq r}(X)$	$S_N^{\geq r}(X)$	same definition
$e = r\delta_g + (1-r)e'$	$N = r\delta_g + R$	fractional decomposition
$C_e(X) = \{c : Mc \leq e\}$	$C_N(X) = \{z : Mz \leq N\}$	$c = \frac{z}{t}$
$e = \sum c(g)\delta_g + (1-\omega(e))e'$	$N = Mz + R$	subdistribution decomposition
$\mathrm{NCF}(e) = \max \omega(c)$	$\mathrm{NCF}(e_N) = \max \mathbf{1}^{\perp} \frac{z}{t}$	same LP
$\mathrm{CF}(e) = 1 - \mathrm{NCF}(e)$	$\frac{D^-(N)}{\lvert N \rvert_1} = \mathrm{CF}(e_N)$	**main theorem**
X	$D^{\curvearrowright}(N)$	**dynamic enrichment**

[T26] Louis Triouleyre Master thesis https://membres-lig.imag.fr/mhalla/understanding/Rapport_de_stage_M2-Louis.pdf

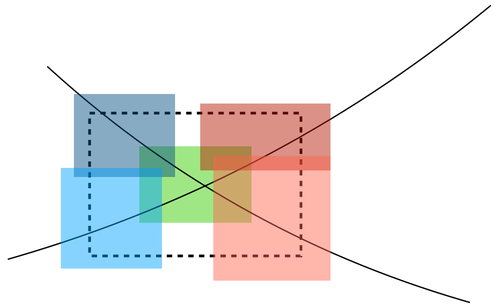
Universal quantum information with integers

- Keep in mind link with conditional permutation forms:
  - CNOT and Toffoli already controlled permutation form
  - $H \otimes H$ removes the square root of two with one ancilla
  - $U_{\perp} = \frac{1}{5}\begin{pmatrix} 3 & 4 \\ -4 & 3 \end{pmatrix}$ so five copies could be counts

$$(\cos(\theta) = \frac{3}{5})$$

Experimental wild

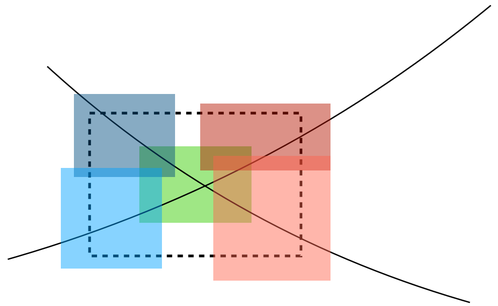
An open proposal: starting from interruptions



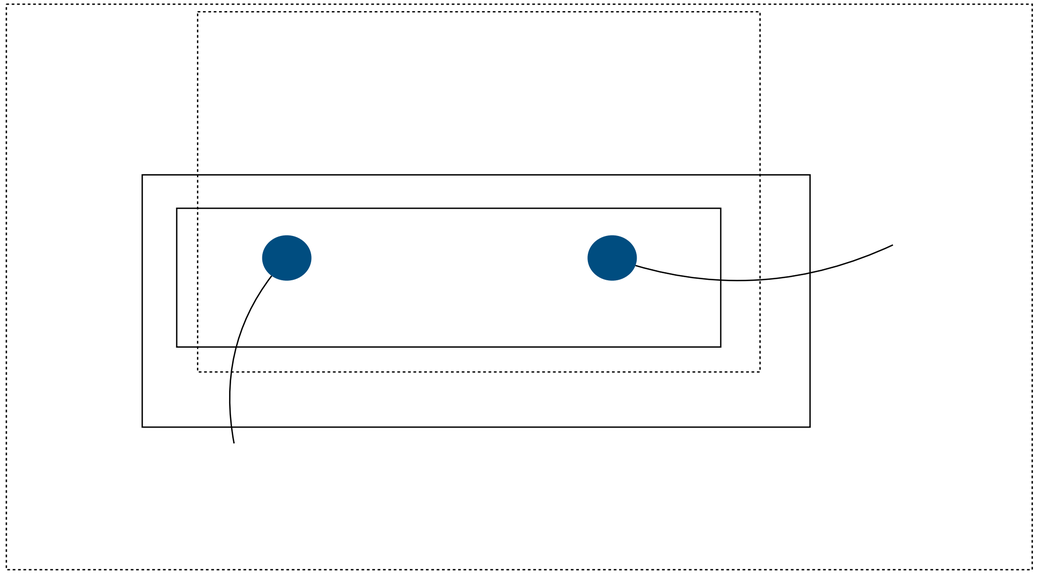
A line could be a fast moving point

Experimental wild

An open proposal: starting from interruptions



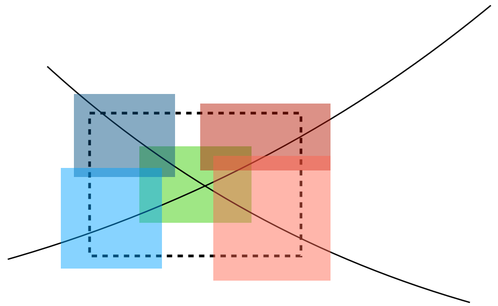
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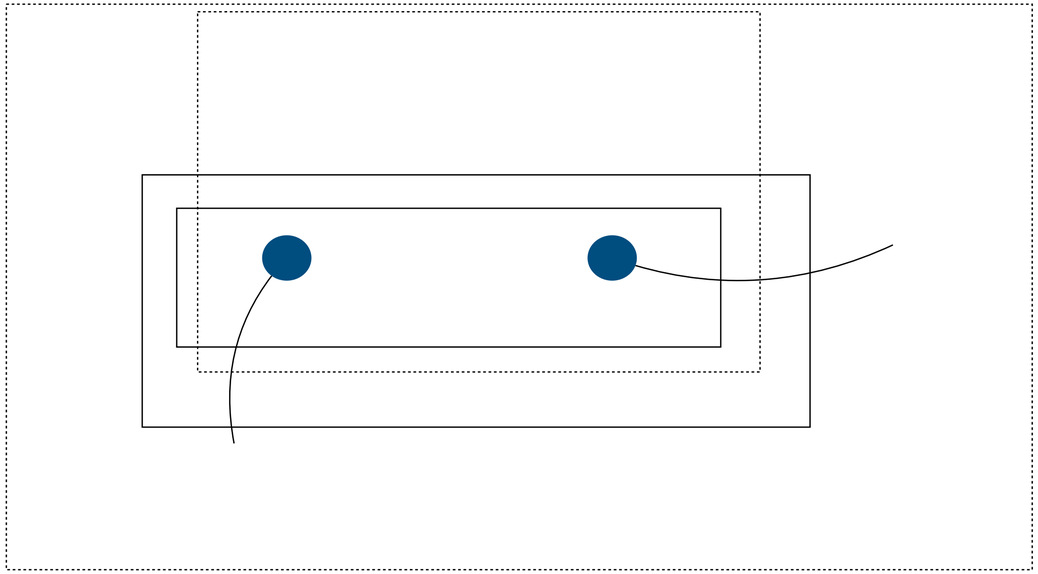
Equal becomes « I could not point to a difference »

Experimental wild

An open proposal: starting from interruptions



A line could be a fast moving point

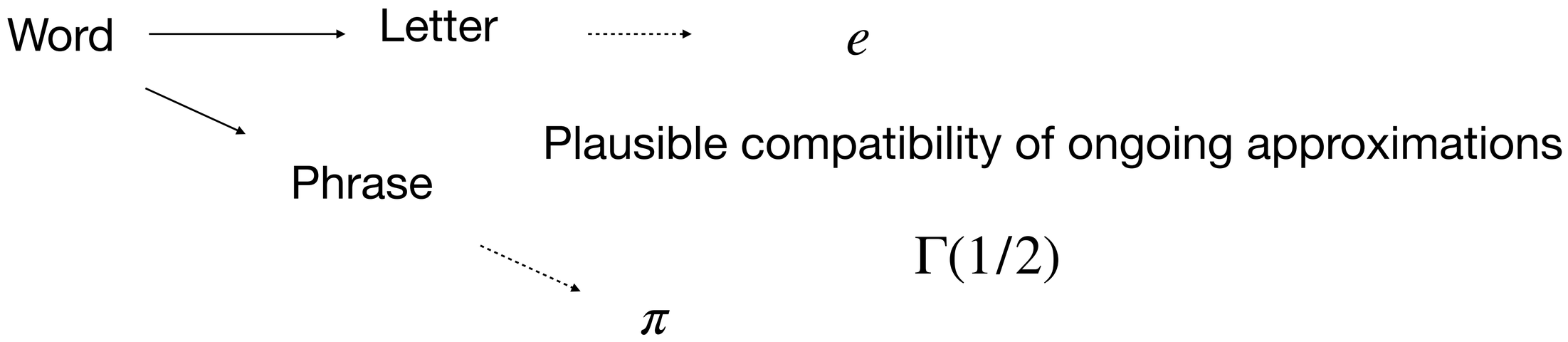


Equal becomes « I could not point to a difference »

Zooming inside (buy better monitor)

a point could give a pixelised partition

An ongoing open project: interruptible interruptions and understanding understanding



- A d character attributing attribute linked by supposedly common support to a b character agreeing on attribution over discussion

- **Understanding understanding** from interruptions of interruptible, plausible anthropomorphisms.

- https://membres-lig.imag.fr/mhalla/understanding/understandingmachineoctober.pdf

From whats true to how when for whom words acquire meanings

Equip environments with space for possible hidden intentions as a scheduled to check

- When Mutual expressible notions emerges and how are they expressed ?

- Causality is an expressed and often desired « feeling/notion/need » by humans

- Event maker anthropomorphism makes event ressource referable as represented event by the act of expressing consuming narrability locus by instanciation

- Event listener represents plausibility intentionalised representation and can provoque requestion or agree to let as stable enough to look like no need to question

Each attempt to define introduce a plausibility of interruption

Four locuses of plausible interruption

Define as Have attribute by force



As transmission as reflect

Localisable active attribution

Submissive

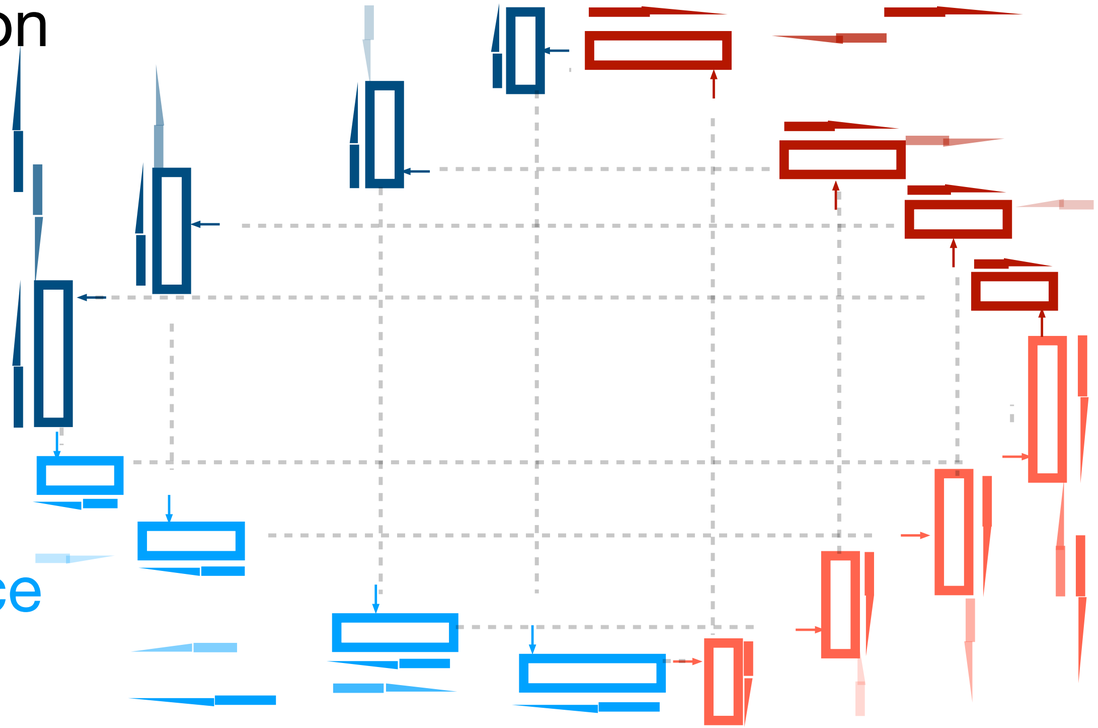
As instance mark

Admission

Attribuant

Constructive formulation

Attribuable ressource



Physicists unity machine
To make physics an emerged human language

Graded power level

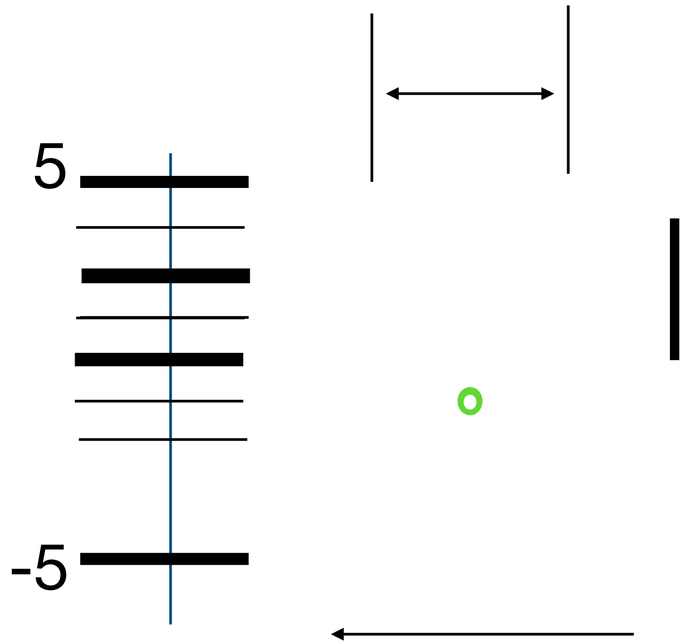
	Mass	Length	Time	Temperature
$\hbar$	1	1	1	1
c	1	-3	-5	5
G	-1	1	1	-1
k_B	.	.	.	-2

constantified countables

Attributed Names

$$l_P := \sqrt{\frac{\hbar G}{c^3}} \quad t_P := \sqrt{\frac{\hbar G}{c^5}}$$

$$m_P := \sqrt{\frac{\hbar c}{G}} \quad T_P := \sqrt{\frac{\hbar c^5}{G k_B^2}}$$



3 parametrisable $\sqrt{\hbar}$ ideals

True or false can be seen as Localisable « how and when »s

The mutual « feeling » of expressible (partially) verifiable understanding

plausibly true by too close to call

plausibly false from distinguishable protests

Is is true for any reasonable being ?

What dynamical localisable protologics makes it

What incomplete protologics

What incomplete doubts

Collecting results as cardinality counts

I view it as a plausibly functorial action looking like doing nothing

$$A_{|} + B_{-} = 1 \,|\, M_{sum}$$

$$A^{|} - B^{-} = {}_{\cdot N_{sum}}$$

I tried to look for a measurable object but found nothing

$$J_{\cdot t_Q=1, t_P=1, t_P=0, a_P=1} := E_{|}^{1} - E_{-}^{1} + E_{|}^{2} - E_{-}^{2} + E_{|}^{3} - E_{-}^{3} + E_{|}^{4} - E_{-}^{1}4$$

$$\overline{|\overline{\quad}|}$$

$$\overline{(E_{|}^{1} + E_{|}^{2} + E_{|}^{3}) - (E_{-}^{3} + E_{-}^{2} + E_{-}^{3})}$$

- Pre-built Integers may hide
  - Cardinalisation ratio (for example MAXINT)
  - Construction chain (for example $\sum_{k++} p_k 10^k$ with lower level k)

Hidden torsions

- $g^{1_{d_1}}|\psi\rangle = |\psi\rangle, g^{1_{d_2}}|\psi\rangle = |\psi\rangle, g^{1_{d_3}}|\psi\rangle = |\psi\rangle, g^{1_{d_1}+1_{d_2}+1_{d_3}}|\psi\rangle = -|\psi\rangle$

$|\psi\rangle_{t++}$

$|\psi\rangle_{t++}$

$|\psi\rangle_{t++}$

- Active read $|\psi\rangle_{t++}$

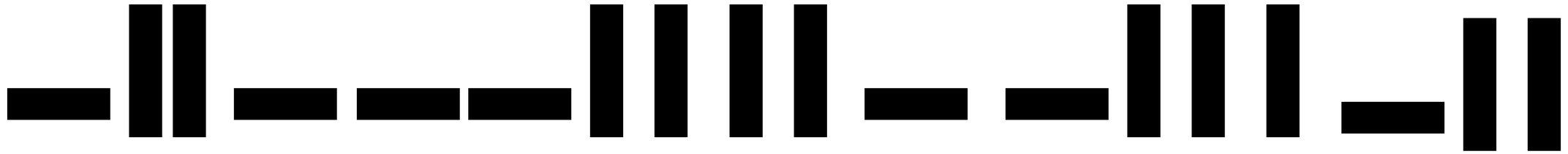
- $g_{2t}^{d_1} - . =^{\cdot} . -, g_{2t}^{d_2} - . =^{\cdot} . -, g_{2t}^{d_3} - . =^{\cdot} . -, g_{2t}^{d_2} g_{2t}^{d_2} g_{2t}^{d_3} - . =^{\cdot} - -$

- Hidden phase or central square root of read as no visible action

Not yet regularised interruptions

$$\mathscr{L}(\mathscr{H})_t :=\cdot \mathscr{L}(\mathscr{H})_{t_{t_d t_p}} \mid \mathscr{L}(\mathscr{H})_{>t_q} - \mathscr{L}(\mathscr{H})_{<t_b}$$

e^{-2iHt_q} e^{-i4Ht_d} e^{-i3Ht_p} e^{-i3Ht_b}



Breath Sound

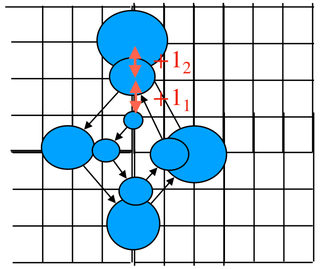
When breath and speak distinguishable and recognisable in a split

Producing local attempted reproduction trace

And dot ■ the latest localised ideal makes them common multiples

Space localising Interruptible emerging representations

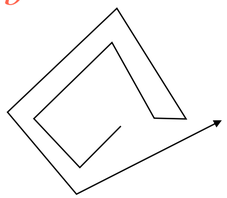
- AB-BA=. Becomes too close to call localised attempt



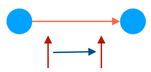
- Support perturbation theories under four modes for each instantiation by narrability

- goin-goout at the locus of the looked for x can be interpreted as









$$.x++ \qquad \cdot_{\substack{d \\ q_{x}^{-}}} \qquad .x|++x.$$

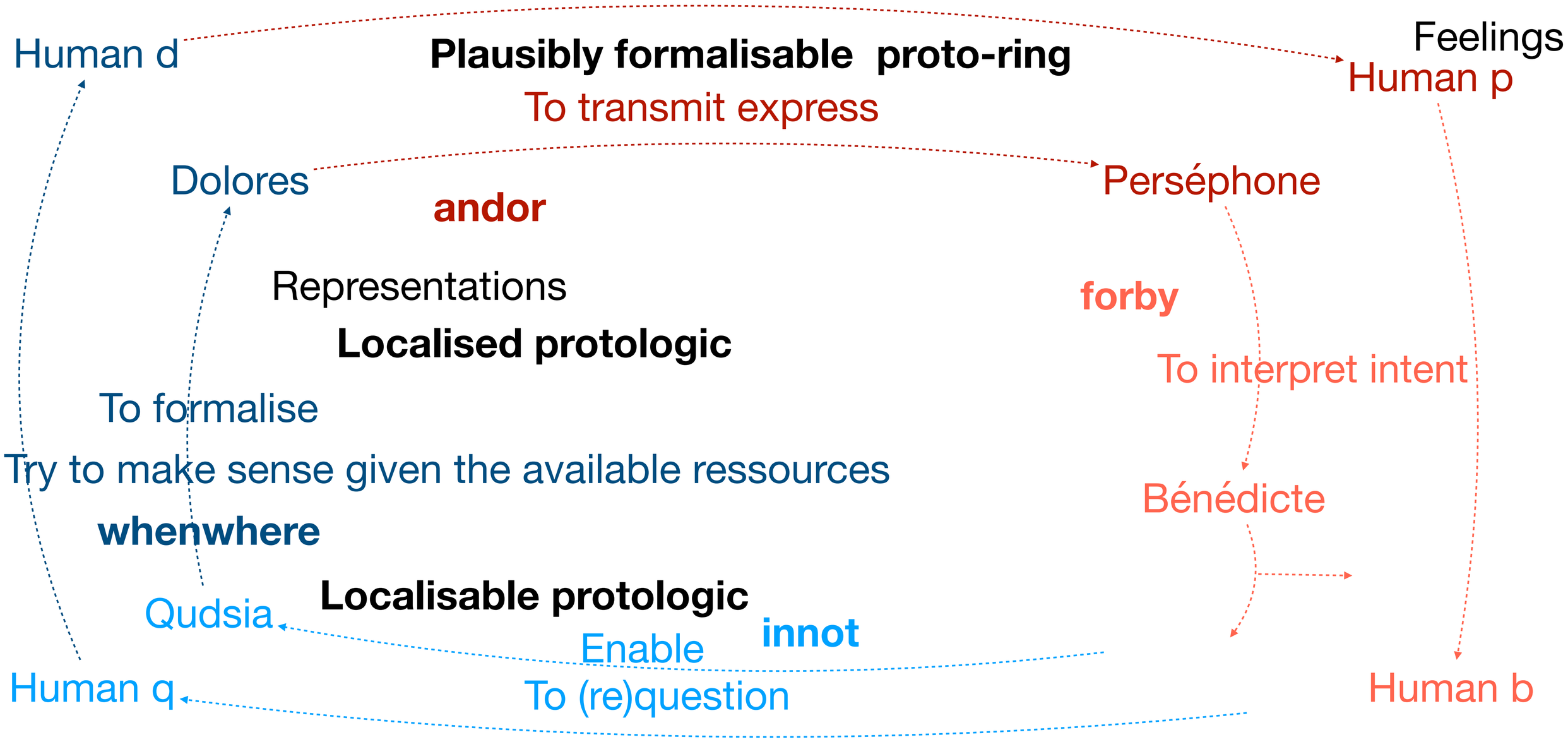
Under self-confusion and interpretation confusion

As plausible permutations

Interruptible proto-forms proposal
Equipping with intent

S_b	$\lvert 0 \to 0.0 \to 0\rvert$	$\cdot_b$ or $\cdot_{b_b}$	$.\rfloor''$	$.\lceil\rfloor$	$b^{\leftarrow}$ or $.^{d_b}$	$\lvert 0 \to 0.1 \to 1$	$Id_\flat$
S_p	$\lvert 1 \to 0.1 \to 0\rvert$	$\cdot_p$ or $\cdot_{p_p}$	$.\rceil''$	$.\lfloor\rceil$	$p^{\downarrow}$ or $.^{q_p}$	$\lvert 1 \to 0.0 \to 1$	$Not_\flat$
S_d	$\lvert 1 \to 1.1 \to 1\rvert$	$\cdot_d$ or $\cdot_{d_d}$	$.\lceil''$	$.\rfloor\lceil$	$d^{\rightarrow}$ or $.^{b_d}$	$\lvert 1 \to 1.0 \to 0$	$Id_\sharp$
S_q	$\lvert 0 \to 1.0 \to 1\rvert$	$\cdot_q$ or $\cdot_{q_q}$	$.\lfloor''$	$.\rceil\lfloor$	$q^{\uparrow}$ or $.^{p_q}$	$\lvert 0 \to 1.1 \to 0$	$Not_\sharp$
$Z_\flat$	$1 \to 0.0 \to 0\rvert$	$p_$ or $.^{p_b}$	$.\rceil\rfloor$	$.\rfloor\lfloor$	$\lvert_b$ or $.^{b_q}$	$0 \to 0.0 \to 1$	F_b
$Z_\sharp$	$0 \to 0.1 \to 0\rvert$	$b_$ or $.^{b_p}$	$.\rfloor\rceil$	$.\rceil\lceil$	$\lvert_p$ or $.^{p_d}$	$1 \to 0.1 \to 1$	F_p
$U_\sharp$	$0 \to 1.1 \to 1\rvert$	$q_$ or $.^{q_d}$	$.\lfloor\lceil$	$.\lceil\rceil$	$\lvert_d$ or $.^{d_p}$	$1 \to 1.1 \to 0$	F_d
$U_\flat$	$1 \to 1.0 \to 1\rvert$	$d_$ or $.^{d_q}$	$.\lceil\rfloor$	$.\lfloor\rfloor$	$\lvert_q$ or $.^{q_b}$	$0 \to 1.0 \to 0$	F_q

Human responsibilities
Interpreted by four roles in a play with interruptible chains

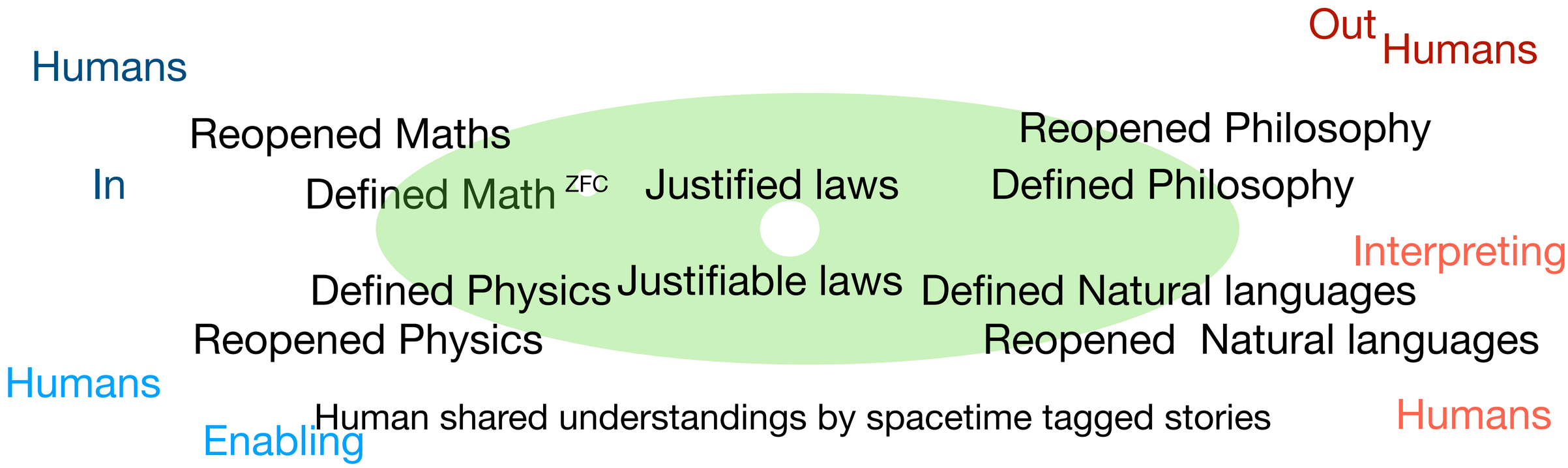


On the pleasure of accepting failures

Swimming is an enjoyable way to fail at walking on water

There seems to be always a choice I couldn’t define

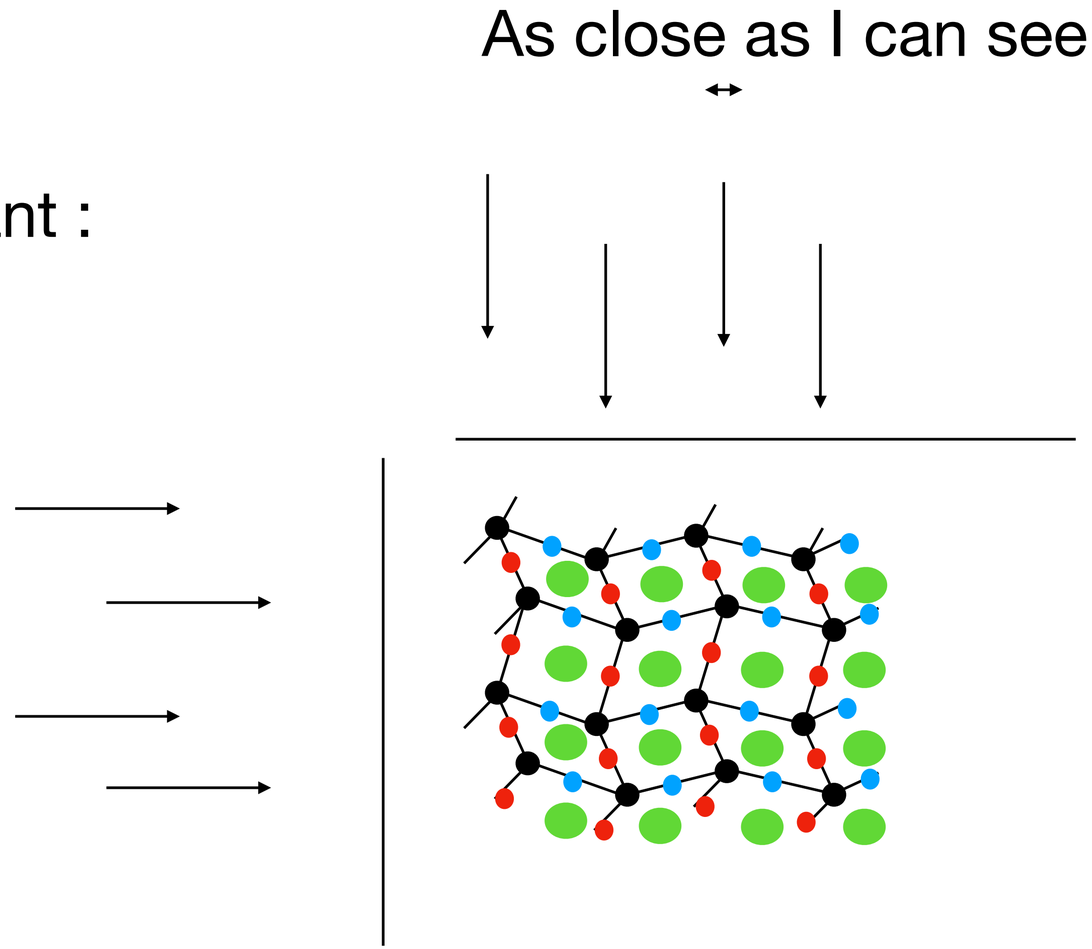
I don’t know how truly one could see, one day a full dot be



Extra slides

Simple application project in standardised theories

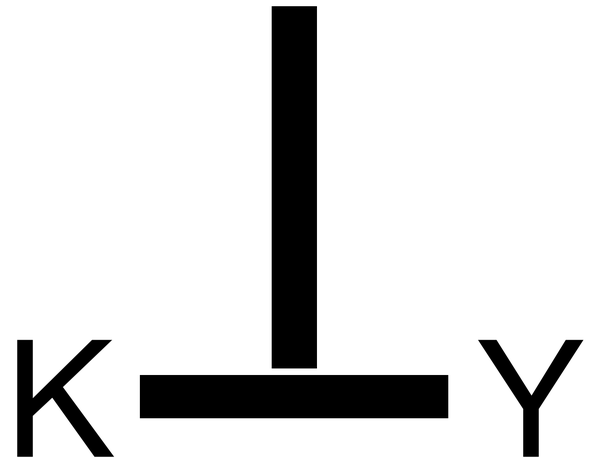
- Deal with inequalities
- Emerging structures: reason by quadrant :
  - 2 plausibility
  - 2 perturbation directions
- Jardines suspendus and lianes



Interrupted split
Right (or unfortunate future) takes and shares

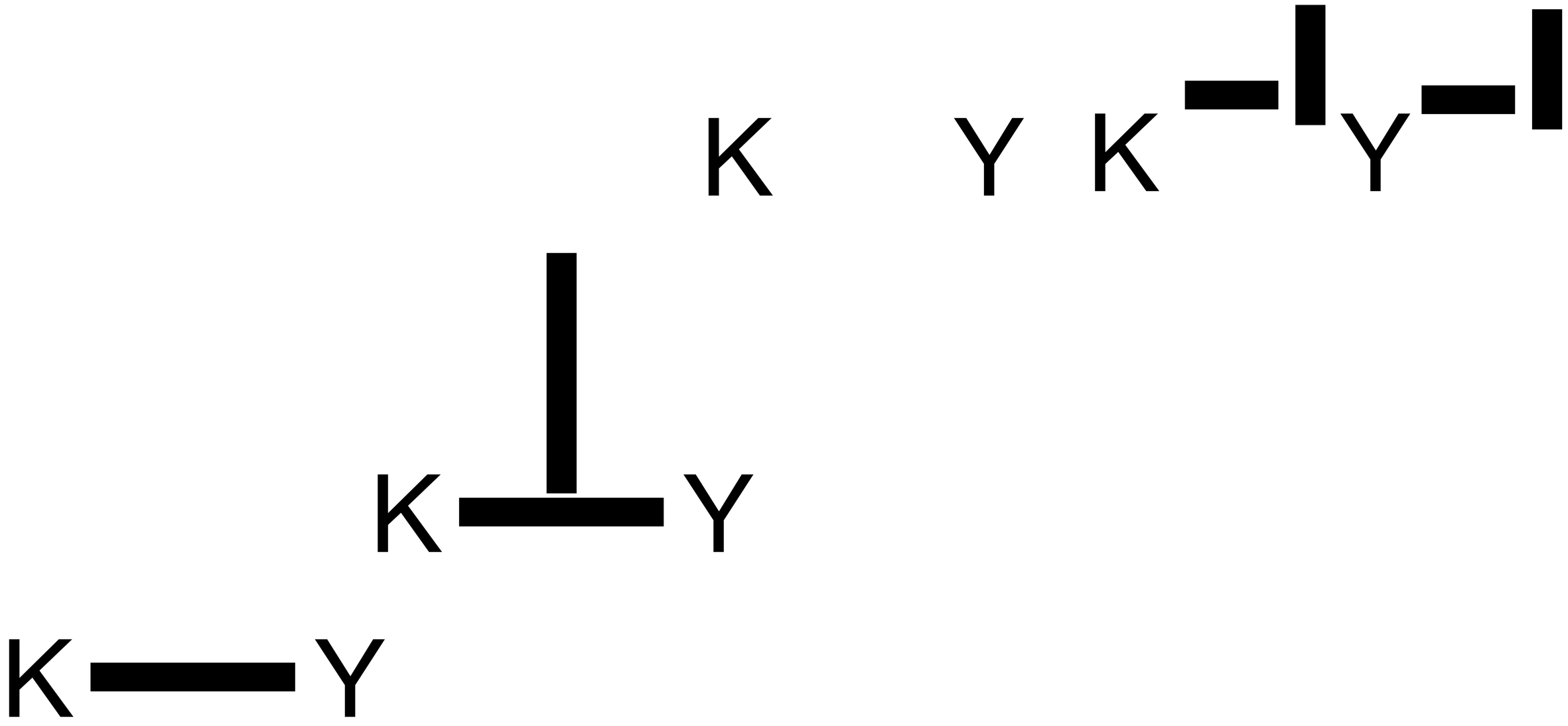


Interrupted split
Right (or unfortunate future) takes and shares





Interrupted split
Right (or unfortunate future) takes and shares



On the power of accepting failures in fair divide as share attempts

Given successor of 1 namable n,d,p,b being built and having pointers at unary piles to be checkable

I don’t know any human or anthropomorphism who can fairly share the diagonal of a unit square:

Given a localisable anthropomorphism or a human asked to share the diagonal

As f : $n \mapsto \lfloor \frac{(\sqrt{2}/2)10^n}{10^{n+1}} \rfloor$

When we need at least d/q to hear and answer a question for some cardinalisable numbers

When disappearing after at most b then he will give at most qb/d answers

Existence of limits is an axiom allowing to speak about rationality of unlimited beings

Is it needed to understand what can be taught by limited beings?

Cardinal number addition is commutative when we forget how they were built, when does it help to remember?

When a speaker don’t claim to know
What listener needs to know

- Accepting timed self-defined needs as a requirement to look for consent
- Rigid traces has inherently lost gestures and intents
    - perfection becomes an approximation by self limitation `
        - impossibility to witness the feeling preceding tracing, the gesture or the plausible past of the instance that seems to be
        - the stabilised by discussing always allowed to claim it has only central elements by those unable to open its boxes

What happens in the environment posture Anthropomorphising by default

- Instead of claiming : I have/know a word I say : I borrow a word
- The environment perspective: imagining the word as a person with a different scale of life time enumerating under her representation of space time one more tagged occurence of someone using me to convey something
- Words become messengers with plausible dynamical self intent (even though often not used and simplified when needed)
- Define by active look for consent

Boxed locuses with 6 looking like lines

- [rewrite rules| axioms.theorems| in construction and rejected drafts| whereto readnext] is a way to write rational theories in any context that can
  - interpret rewrite rules as possible conditional actions,
  - can propose check validity then
  - can act upon deciding correctess wether to extend theorems, to continue drafts, to start a new draft
  - To keep objective or to look for new objective

Looking natural Consequences of dropping perfect domination by submitting environments to beliefs

- A $_{\dot{q}}^{\dot{-}} . . |_{b}^{\dot{}}$ want to be line is an interruptible which traces an be inserted in a tracing between a reproduction of .q and a reproduction of .b
- interruptible with bounded minimal breath required next occurence and maximal length can never be always right a priori
- Linear Goin-goout default parametrisation under unexpressed narration, self representation confusion, and environmental representation bi-confusion $_{\dot{q}}^{x-} x + + .^{x}_{d_{\|x}} -^{p^{x}} x | + + x |^{x}_{b}$

Under interruptions

- Causality Contextuality and Quantum Theory could be mainly a matter of point of view and desire/power to submit space to a metric : (one could change mass equilibirum to tension by rescaled relabeling)
- What are the most restrictive proto-localisedmetrics that could build translation paths under which restriction?equality-equivalence-analogy vertical path of formulation|interpretations as chained relations
- Economical models withtout transmitting debt to new born
- Localised rights and duties instead of rights by birth locus or by blood
- Responsability is transmissed for reactions linked by chains outside measure of intent and active look for consent is acceptible consequence module
- Making constitutional laws accepted as much as possible by consent rather than by submit looks like a much more desirable objective than making unbounded differences accepted as unavoidable
- When viewing ourselves as interruptible interruptions recognising sharing some space for some time, it becomes no longer surprising how anthropomorphic a deterministic big code can seem (LLM with its seed for mimiking alea)

How to deal with approximations

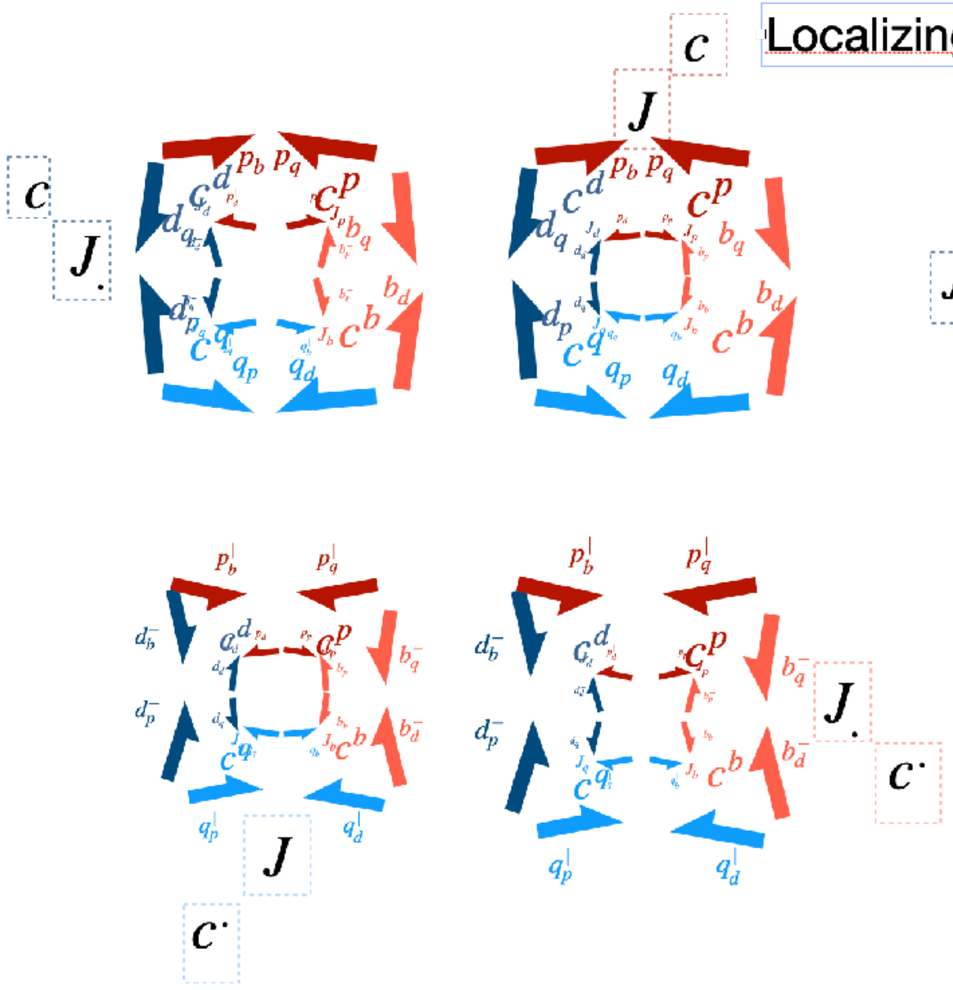
- When points are achievement and observation local relative counts
  - Which average makes sense:
    - Arithmetic, harmonic, median, infimum,min observed, max observed ?
  - You don’t have to choose now (maximally delaying may offer alternatives)

When claim to deprive someone of something

- What makes someone believes enough to claim that he posses something, know something ?
  - Force and.or convince legitimately enough within a localisation to require no longer justification
  - Stabilisation by integrated recognition as stable, or feeling that no need to question or reopen

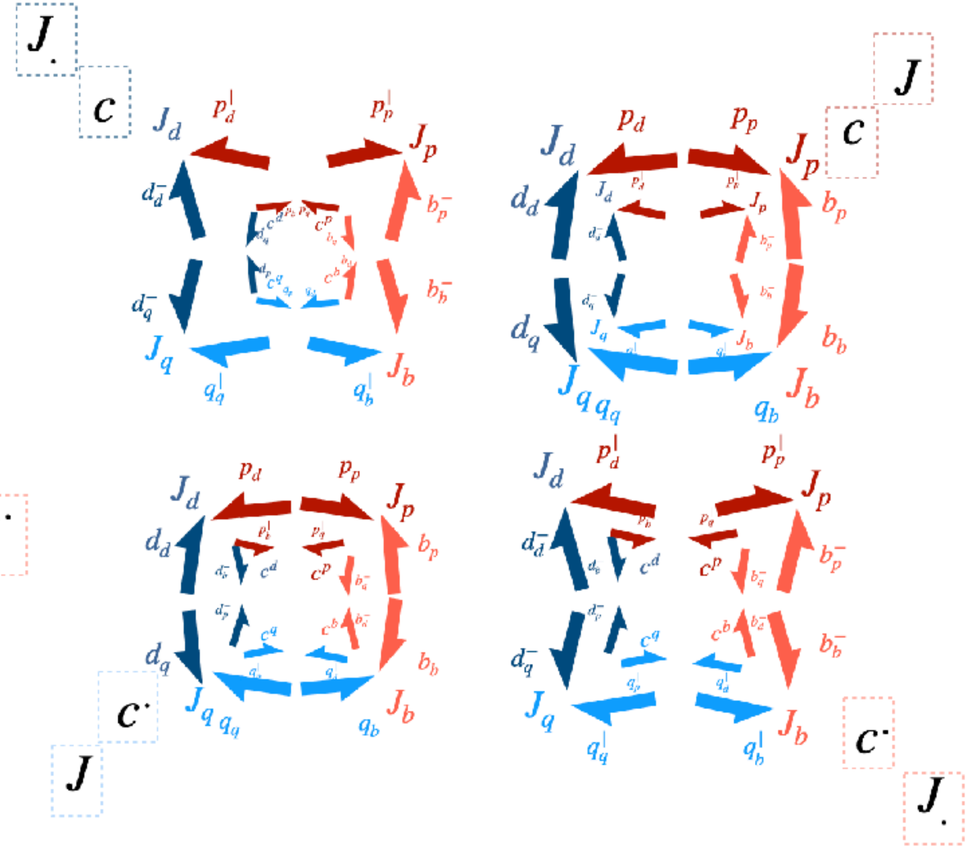
Proto-rings

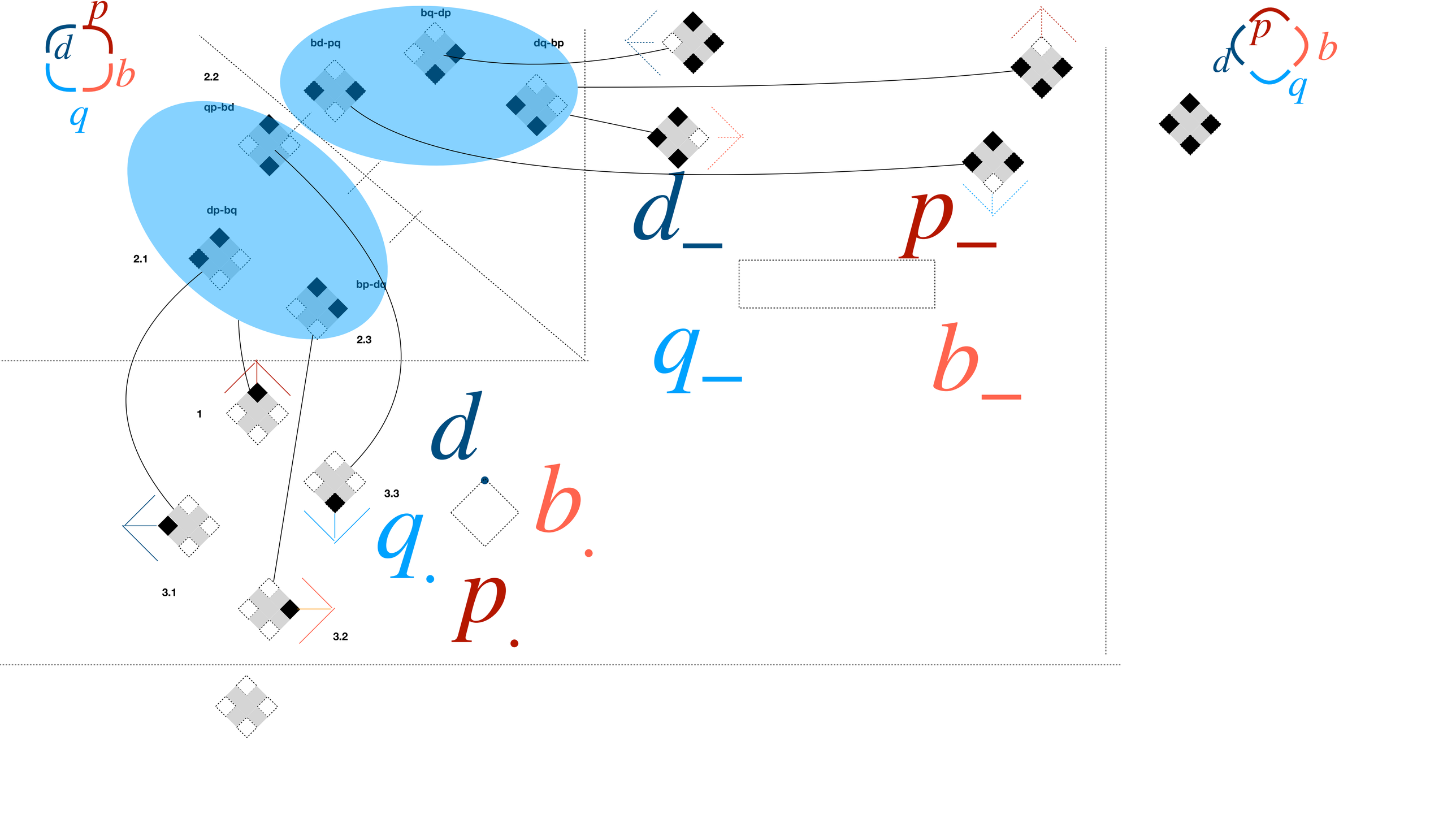
Localizing Bounding Interruptions



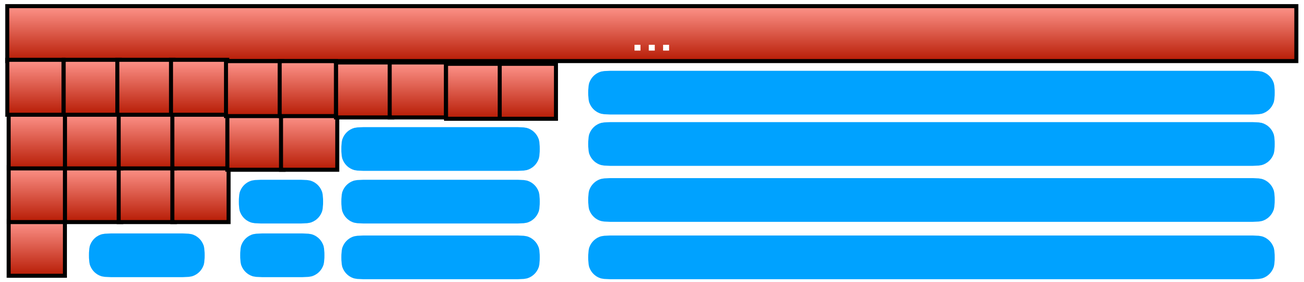
Inverted view [altered] c in [altered] J

Default view [altered] c in [altered] J




p
d
b
q
bq-dp
bd-pq
dq-bp
2.2
qp-bd
dp-bq
2.1
bp-dq
2.3
1
3.3
3.1
3.2
d_
p_
q_
b_
d.
b.
q.
p.
p
d
b
q

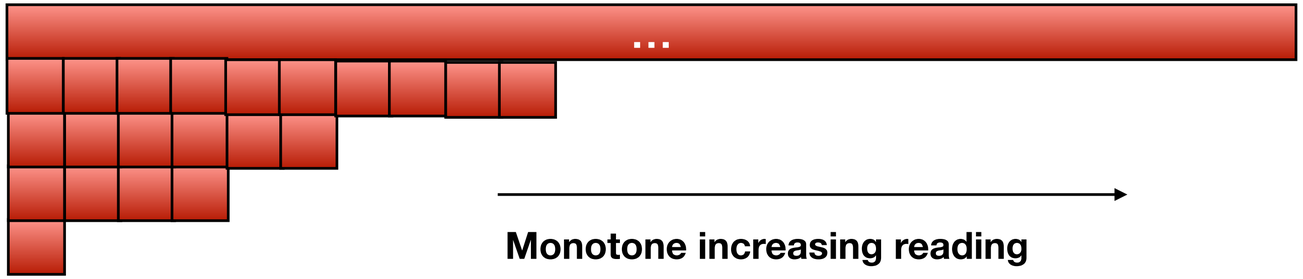
Complete distinguishibilities with equivalences in construction



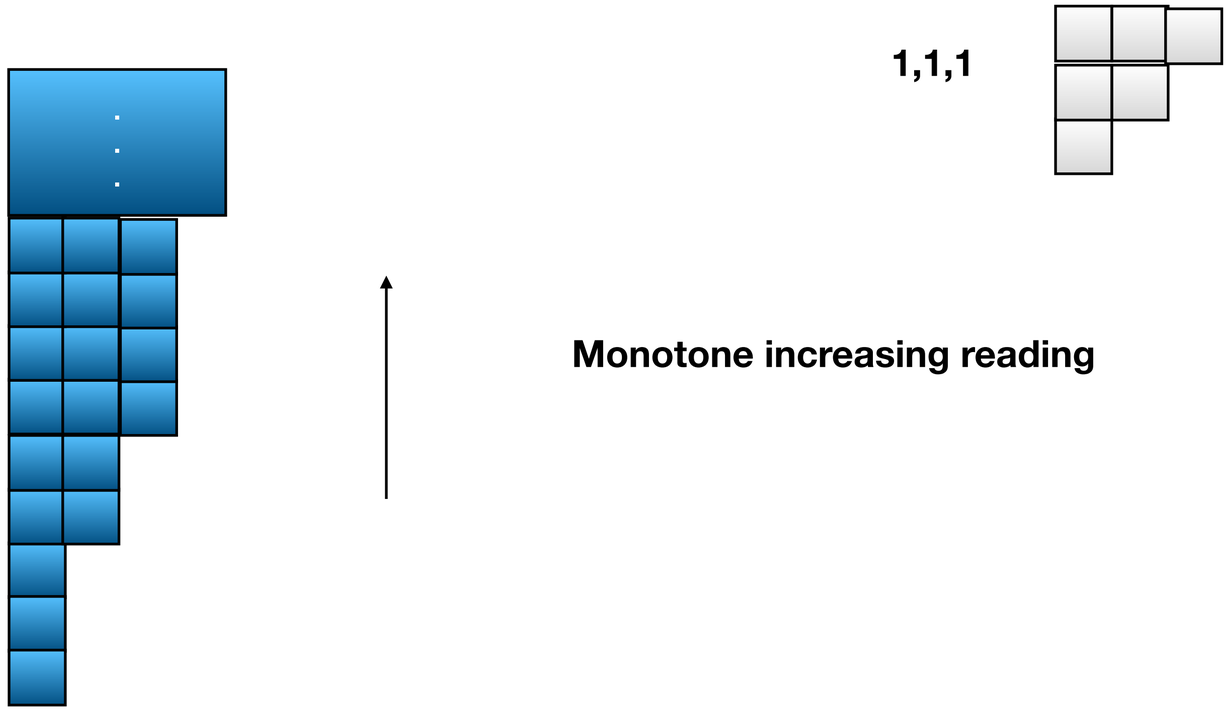
$\neq$ $\quad$ $\not\leftrightarrow$

$\neq$ $\quad$ $\oplus$ $\quad$ $\neg \neq$

Wait and progress encodings of stairs



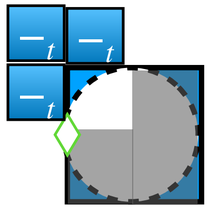
- For almost horizontal part : progress encoding 3,2,4
- For more vertical ones
  - Wait encoding 3,2,4





$\neg_d$

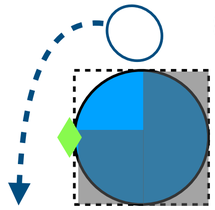
d



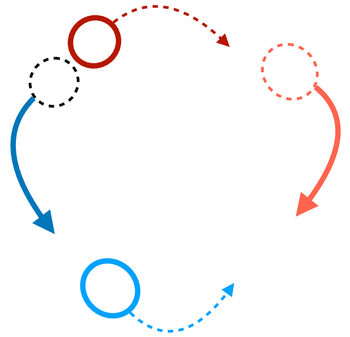
Uniform t concretisation of d

trying to draw (starting from top

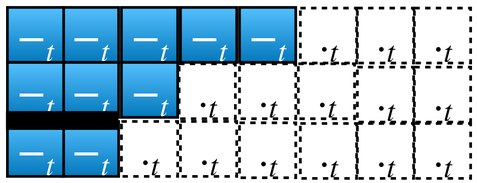
cd



$\cdot_d$



t

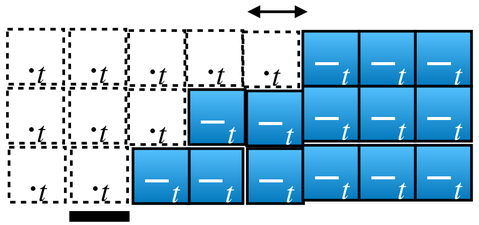


$\lceil_t$

$\langle 1 |$

$\lambda_{t,cb_{h,2,1,2},3}$

$\lambda_{t,q_{h,2,1,2},3}$

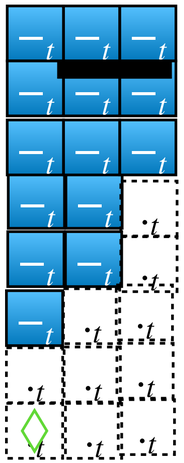


$\lambda_{\neg t,cq_{h,2,1,2},3}$

2 1 2 3

2nd part existence conditioned by the diamond

d_2



3

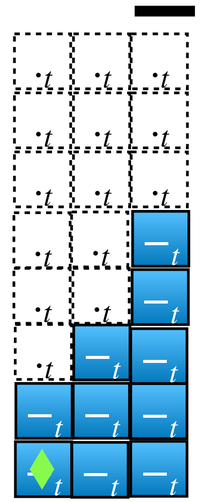
2

1

2

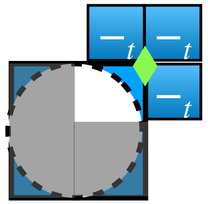
$\lambda_{\neg t,cb_{v,2,1,2},3}$

$\lambda_{\neg t,q_{v,2,1,2},3}$

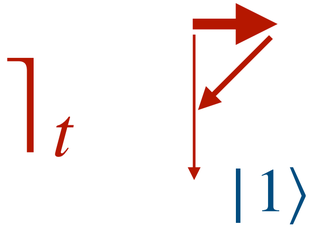


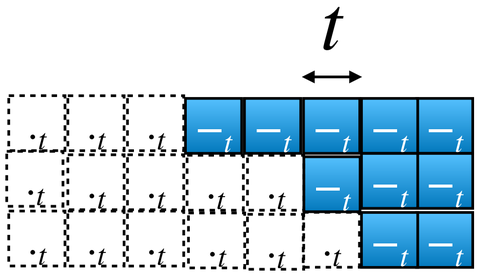
$\lambda_{t,cq_{v,2,1,2},3}$

Whether I am on the border or just after this is the safe direction looking for constant

cp  $-_p$ Uniform t concretisation of p

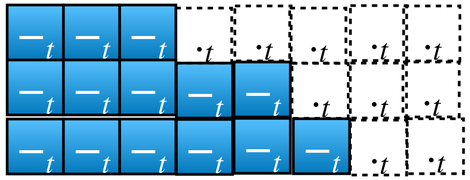
trying to draw) starting from top



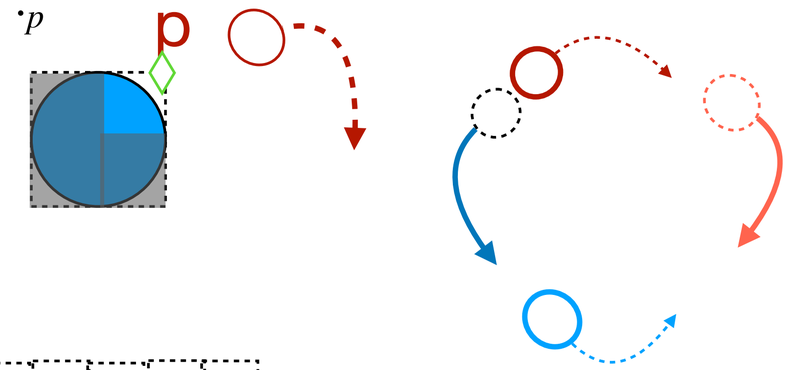


$\lambda_{t,3,p_{h,2,1,2}}$

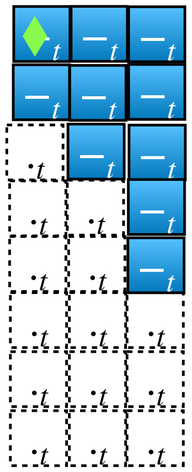
3 2 1 2



$\lambda_{\neg t,3,p_{h,2,1,2}}$



2nd part existence conditioned by the diamond



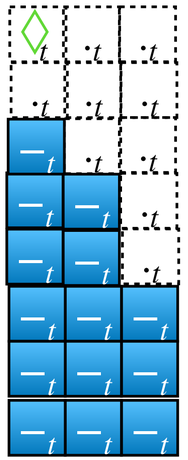
$\lambda_{t,p_{h,2,1,2},3}$

2

1

2

3



$\lambda_{\neg t,p_{v,2,1,2},3}$

Uniform t concretisation of q

trying to finish drawing (starting from top

cq

$-_q$

$\cdot_q$ q

t

$\lfloor_t$

2

1

2

3

$\langle 0|$

$\lambda_{\neg t,d_{v,2,1,2},3}$

$\lambda_{t,d_{v,2,1,2},3}$

2nd part existence conditioned by the diamond

$\lambda_{\neg t,3,d_{h,2,1,2}}$

3 2 1 2

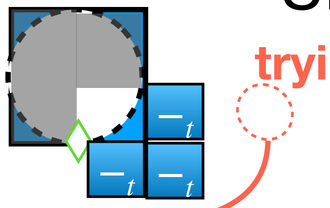
$\lambda_{t,3,d_{h,2,1,2}}$

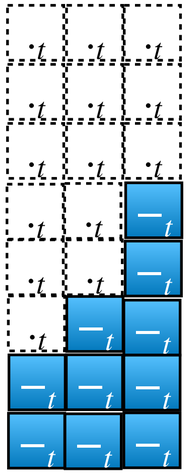
Uniform t concretisation of b

trying to finish drawing) starting from top

b

$\neg_b$





$\lambda_{t,b_{v,2,1,2},3}$

$\rfloor_t$

$|0\rangle_{t-1} \cdot t$

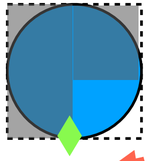
3

2

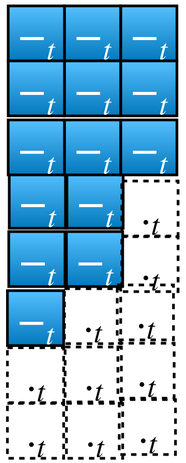
1

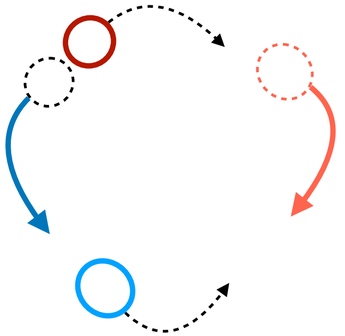
2

cb



$\cdot b$

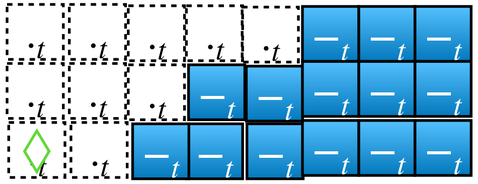




$\lambda_{\neg t,cb_{v,2,1,2},3}$

2nd part existence conditioned by the diamond

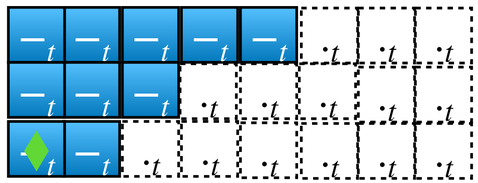
t



$\lambda_{\neg t,b_{h,2,1,2},3}$

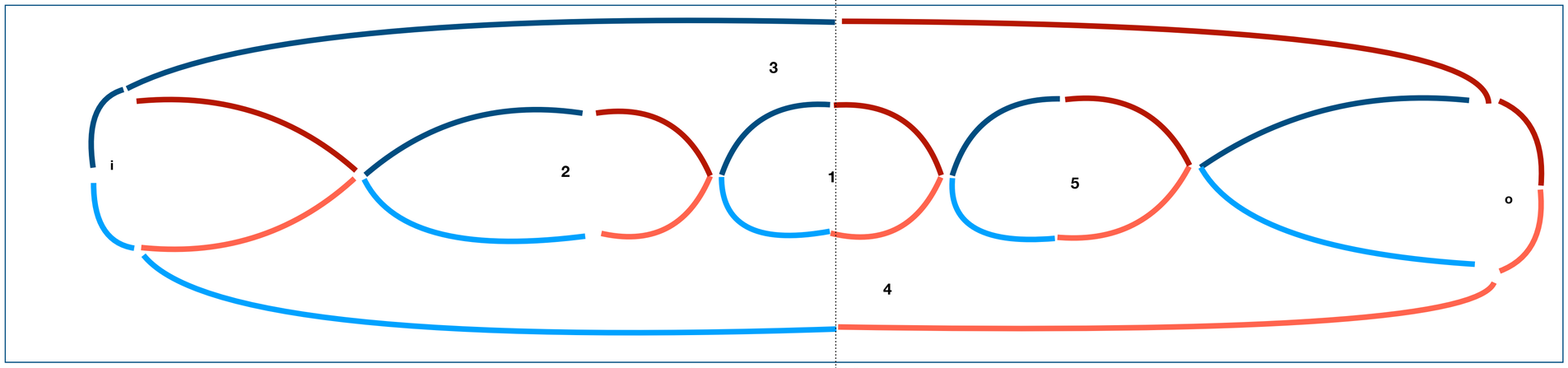
2 1 2 3

t



$\lambda_{t,cb_{h,2,1,2},3}$

Ideas trying usable under undefinition



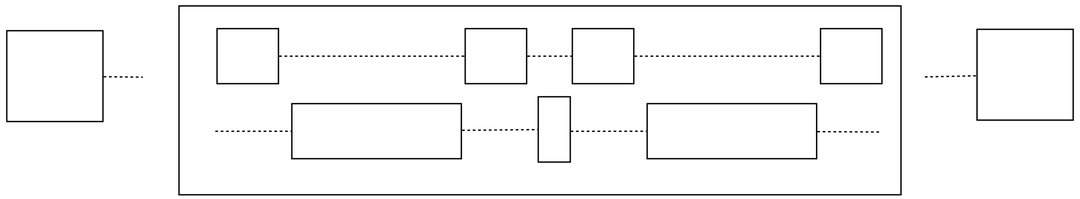
anthropomorphism

concept
Or left projector

percept
Or right projector

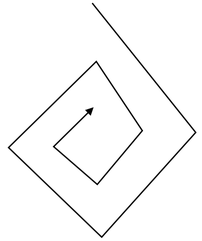
Or splittable unitary is a superposed view
of projector which is also symmetry and normaliser

Rotated Liane

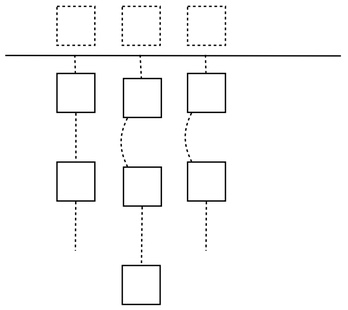


Repeat center as a sequence

Dérive



Jardins Suspendus

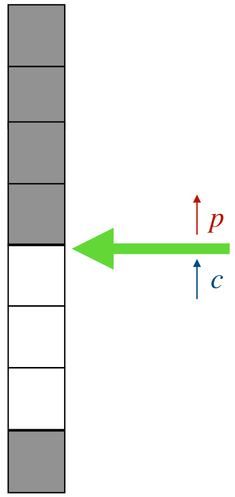


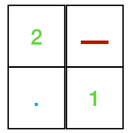
Example Refining readings from perfect structure failing to perfectly converge

when full draw - otherwise .

when full draw - otherwise .

1 2 3 4 **Time j : j experiments with view above and view below**





Even when assuming stability and infinite number of steps

« Bad » events (here distinguishable left and right derivation) could just becomes rarer

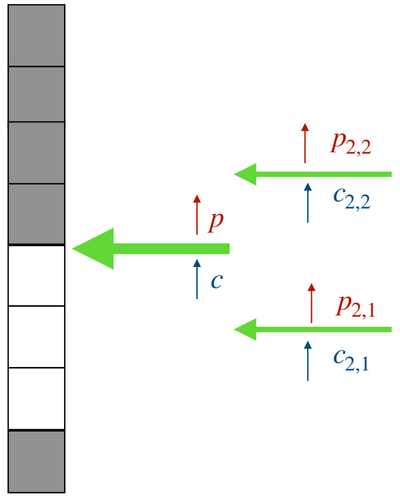
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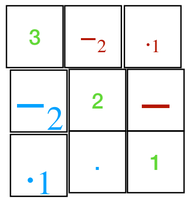
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Time j : j experiments with view above and view below





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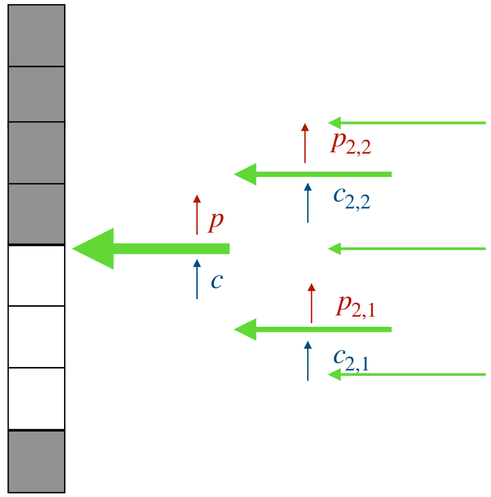
Example Refining readings from perfect structure failing to perfectly converge

when full draw - otherwise .

when full draw - otherwise .

1 2 3 4

Time j : j experiments with view above and view below



4	$-_3$	$-_2$	$\cdot_1$
$-_3$	3	$-_2$	$\cdot_1$
$\cdot_2$	$-_2$	2	—
$\cdot_1$	$\cdot_1$	·	1

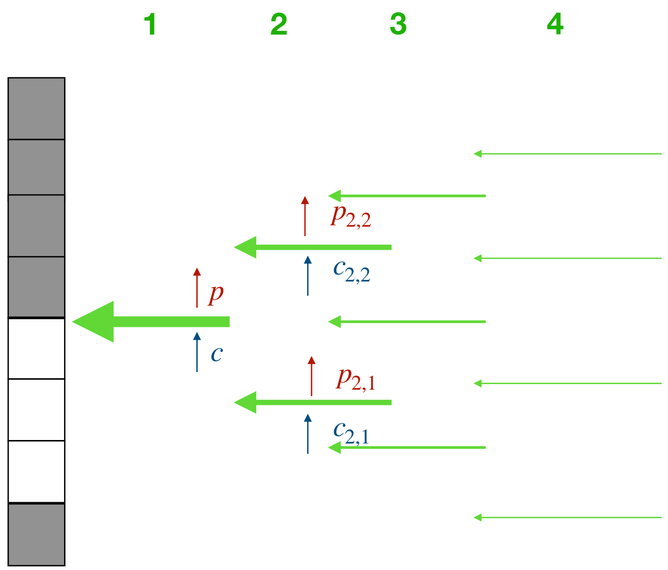
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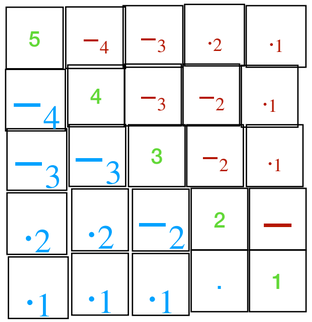
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Time j : j experiments with view above and view below



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ATM interactions

- Deshumaning chain elements using states makes abuse more acceptable
- When interacting with an anthropomorphism:
    - Instead of trying to force her.him to inherit properties of attributes you attribute to him.her from what you think you know from your representation theory having an un predicted new dimension can be chance to gain a new module of understanding

Definition 2.3. Conditional Contextuality

Let $H = (V, E)$ and $H' = (V', E')$ be two hypergraphs such that there is an injection $\phi : V' \to V$. H' is a **conditional contextuality scenario** of H if and only if $\mathscr{G}(H) \circ \phi = \mathscr{G}(H')$, i.e.

$$\forall p \in \mathscr{G}(H),\ p \circ \phi \in \mathscr{G}(H')$$
$$\forall p' \in \mathscr{G}(H'),\ \exists p \in \mathscr{G}(H),\ p \circ \phi = p'$$

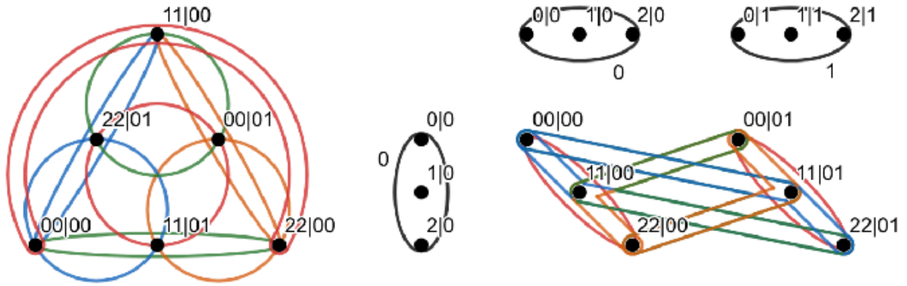


Figure 6: This contextuality scenario on the left can be directly obtained as a game with a rule (denoted in red) which restrict the questions 00 and 01 to the diagonal answers 00, 11 and 22

Theorem 4.1. *General Bipartite conditional contextuality*

Let $H = (V, E)$ be a hypergraph such that $|E| = m$ and $max_{e \in E}|e| = d$. Then, H has a 2-partite conditional interpretation as a game on $B_{2,m,d}$.

[HM20]Contextuality and Expressivity of Non-locality. QPL 2020: 160-173 t arXiv:1912.11412.

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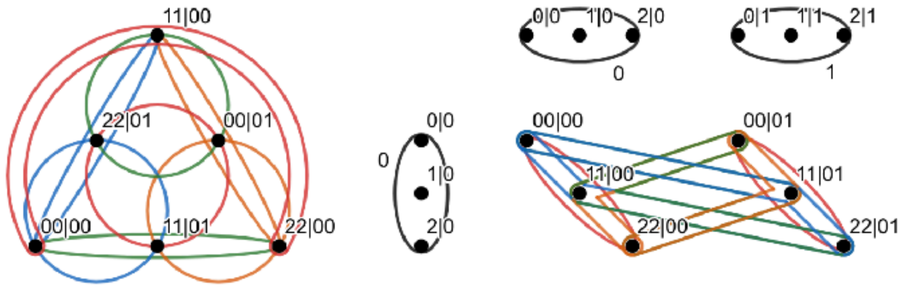


Figure 6: This contextuality scenario on the left can be directly obtained as a game with a rule (denoted in red) which restrict the questions 00 and 01 to the diagonal answers 00, 11 and 22

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[HM20]
A one to one correspondance can be made between Non local games correlations and probability models for hypergraphs when restricted to subset of vertices

[HM20]Contextuality and Expressivity of Non-locality. QPL 2020: 160-173 t arXiv:1912.11412.

$$q - d - | - p - b$$

$$(q - d) - | - (p - b)$$

$$q - d + p - b$$

$$1_{J}^{q-d+p-b}$$

$q | d \,.\, p | d$ For $\frac{\frac{d}{q}}{\frac{d}{q}} \frac{p}{b}$

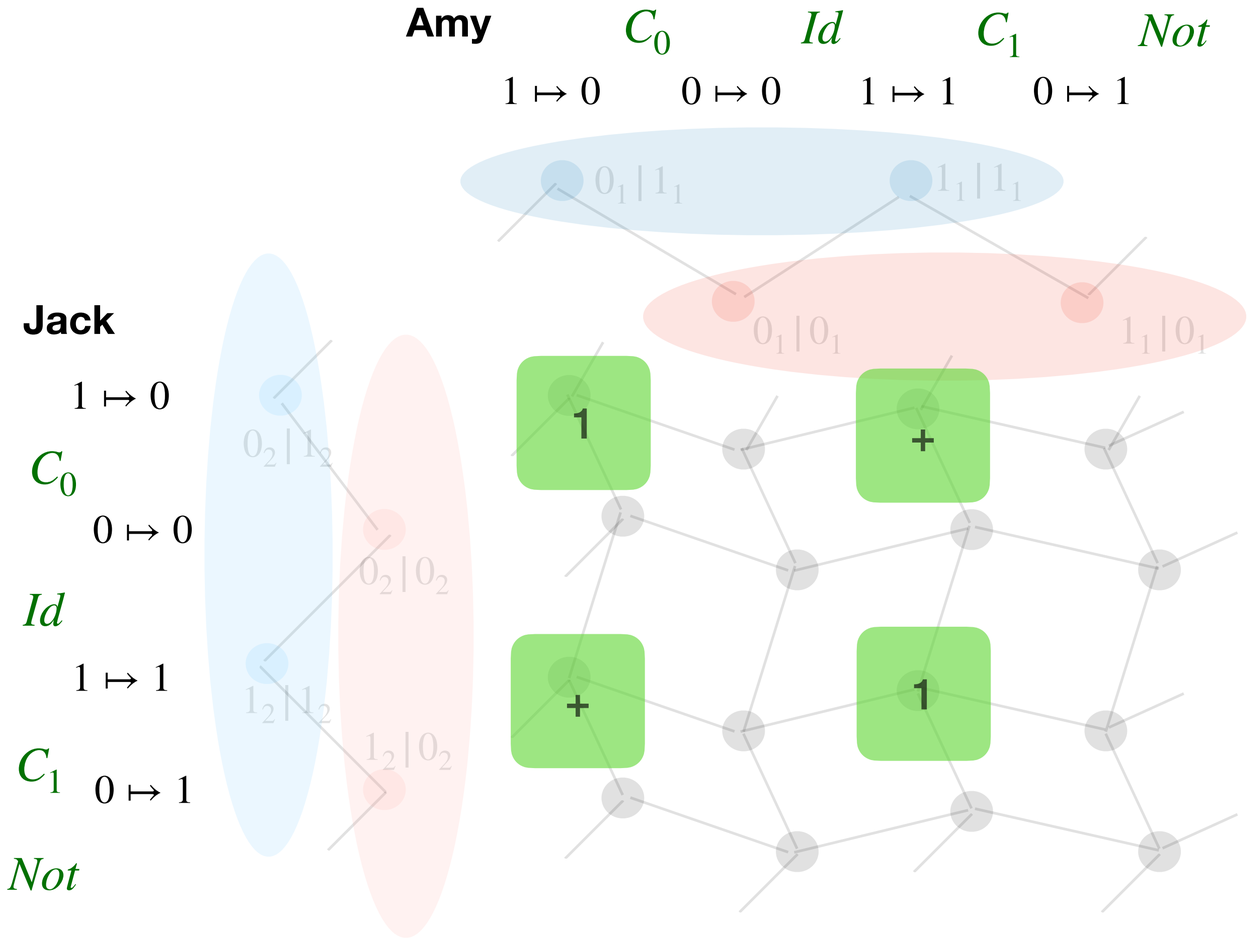
When interruption instanciation Is breath-speak localisable

When we imagine plausible detection splitting interruptions:

Information modulated survives on the non interrupted part,

Mirror as palindrome given your unit is doable torsion

Composition of hyperedges



$P^J_{|-\rangle}$

$P^J_{|+\rangle}$

1/2 Event

When

$E_J E_A : t_A t_J = 0$

$P^A_{|-\rangle}$ $P^A_{|+\rangle}$