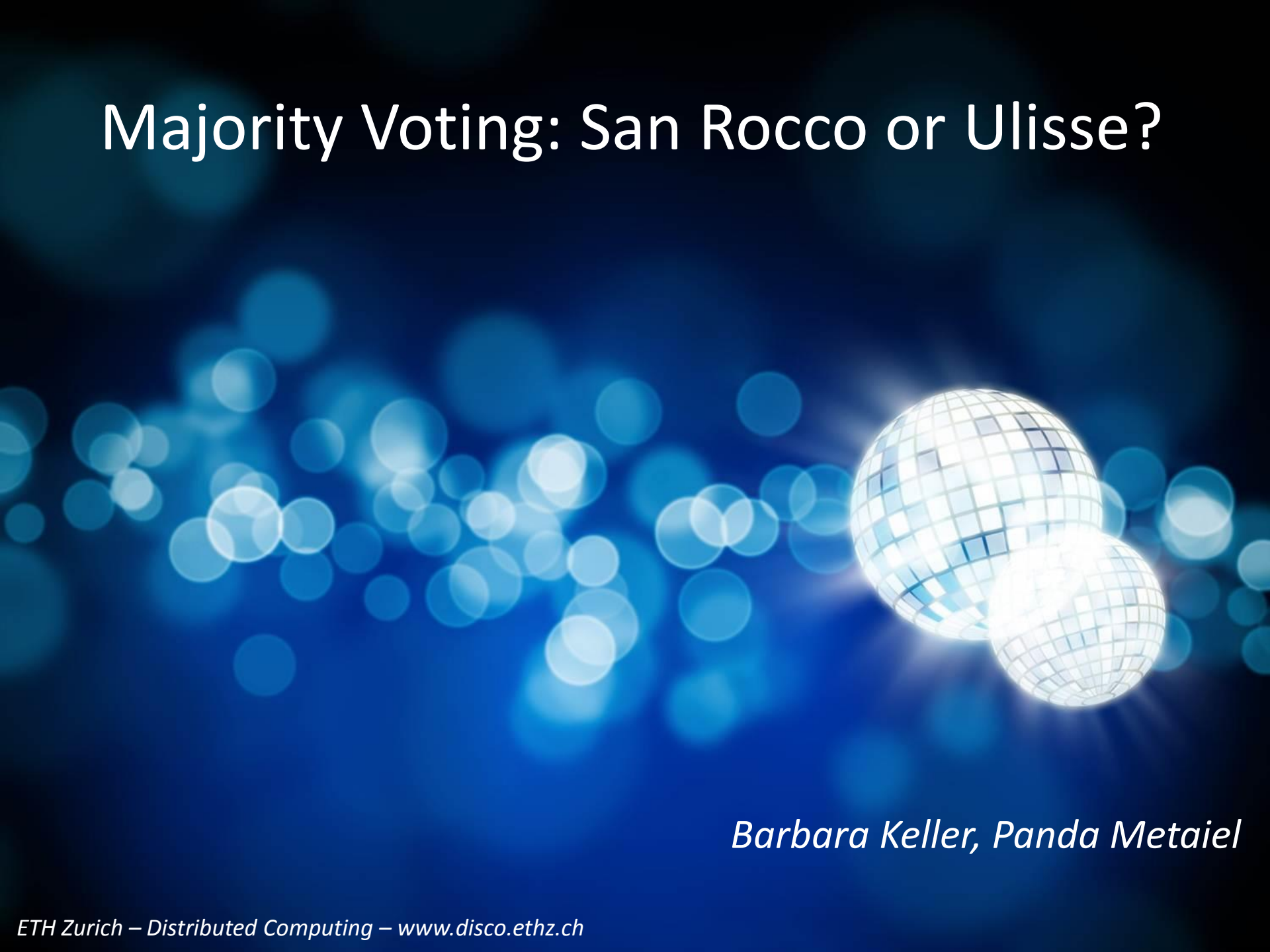
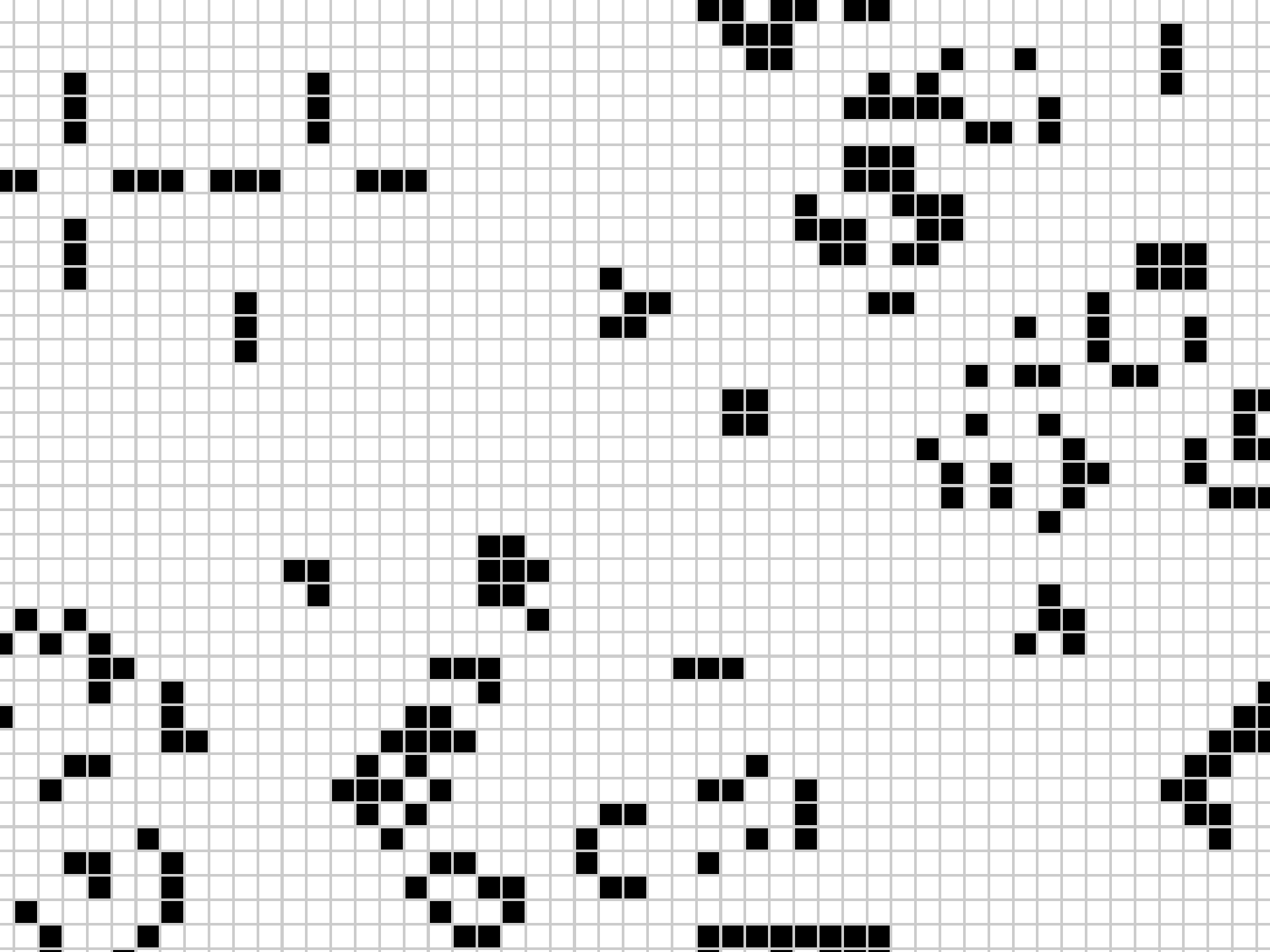
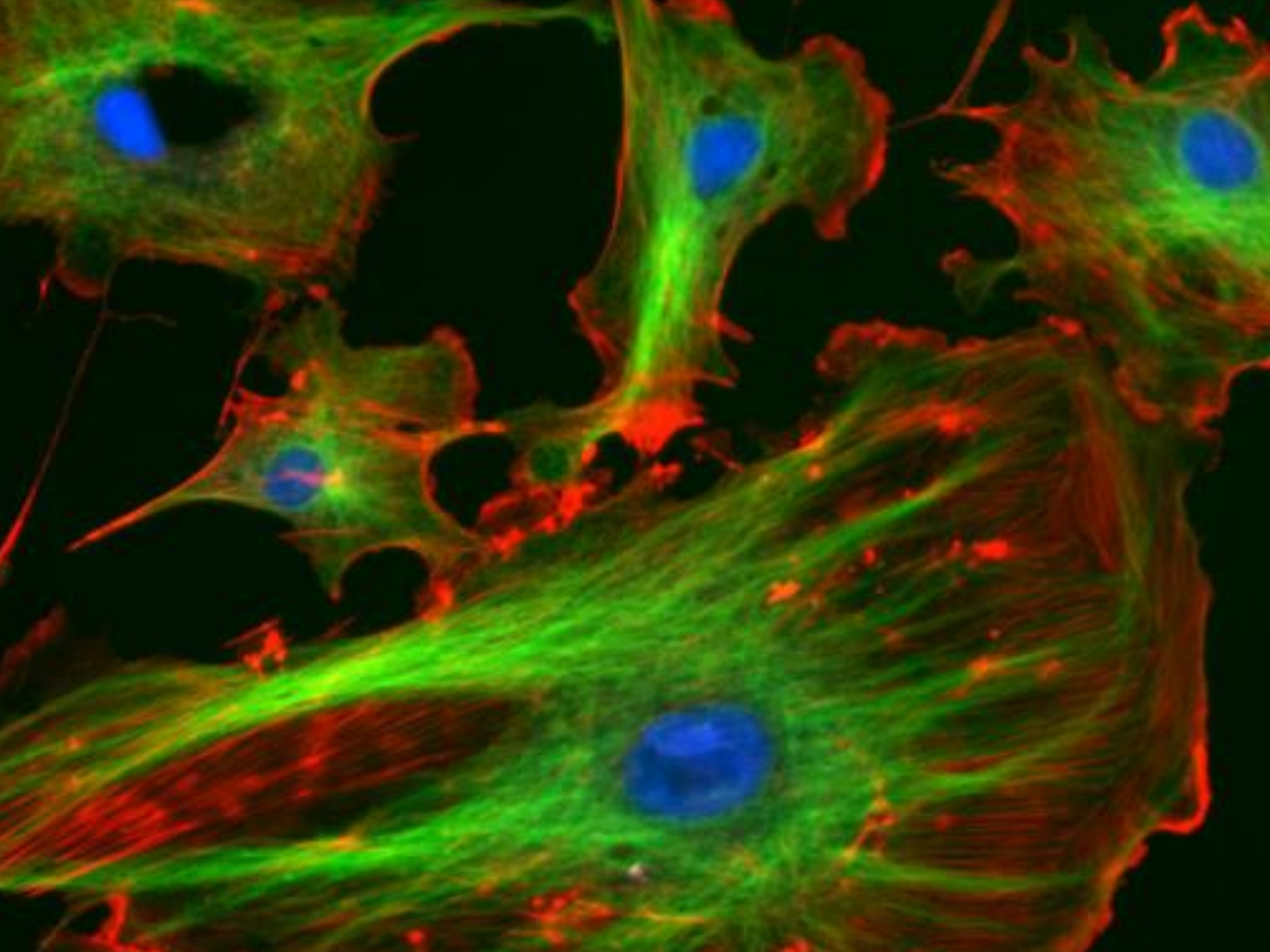
Majority Voting: San Rocco or Ulisse?

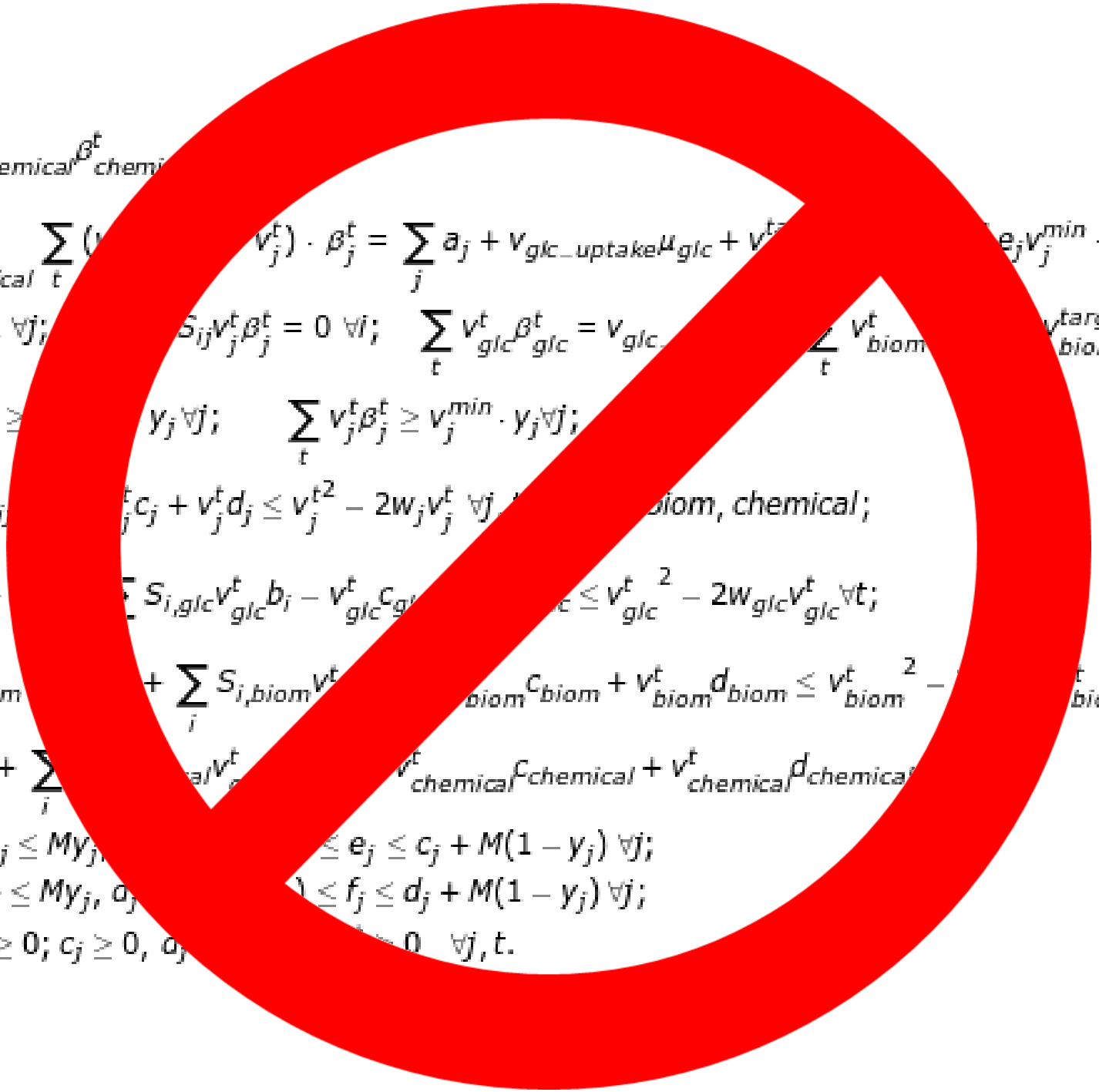


Barbara Keller, Panda Metaiel



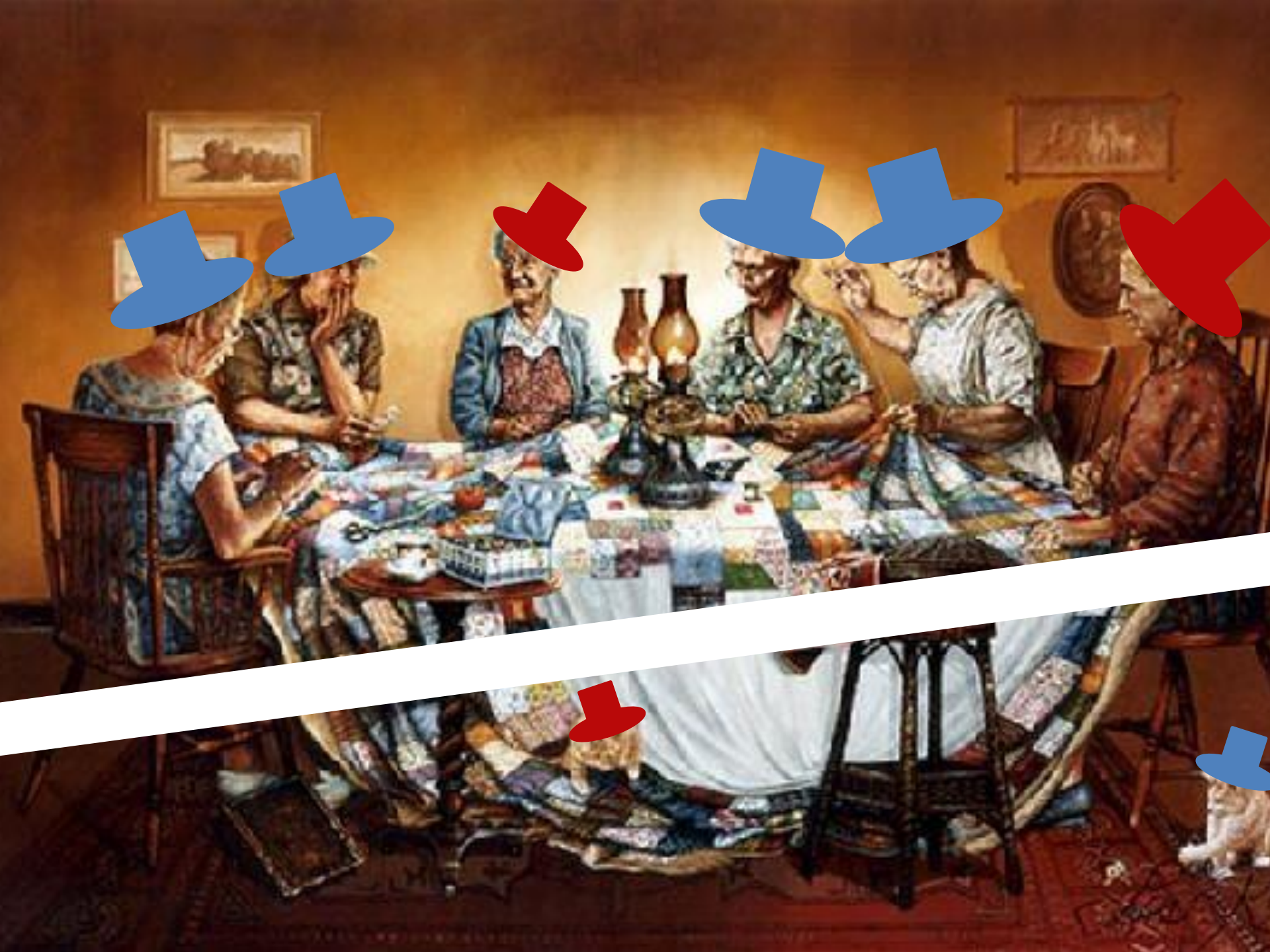


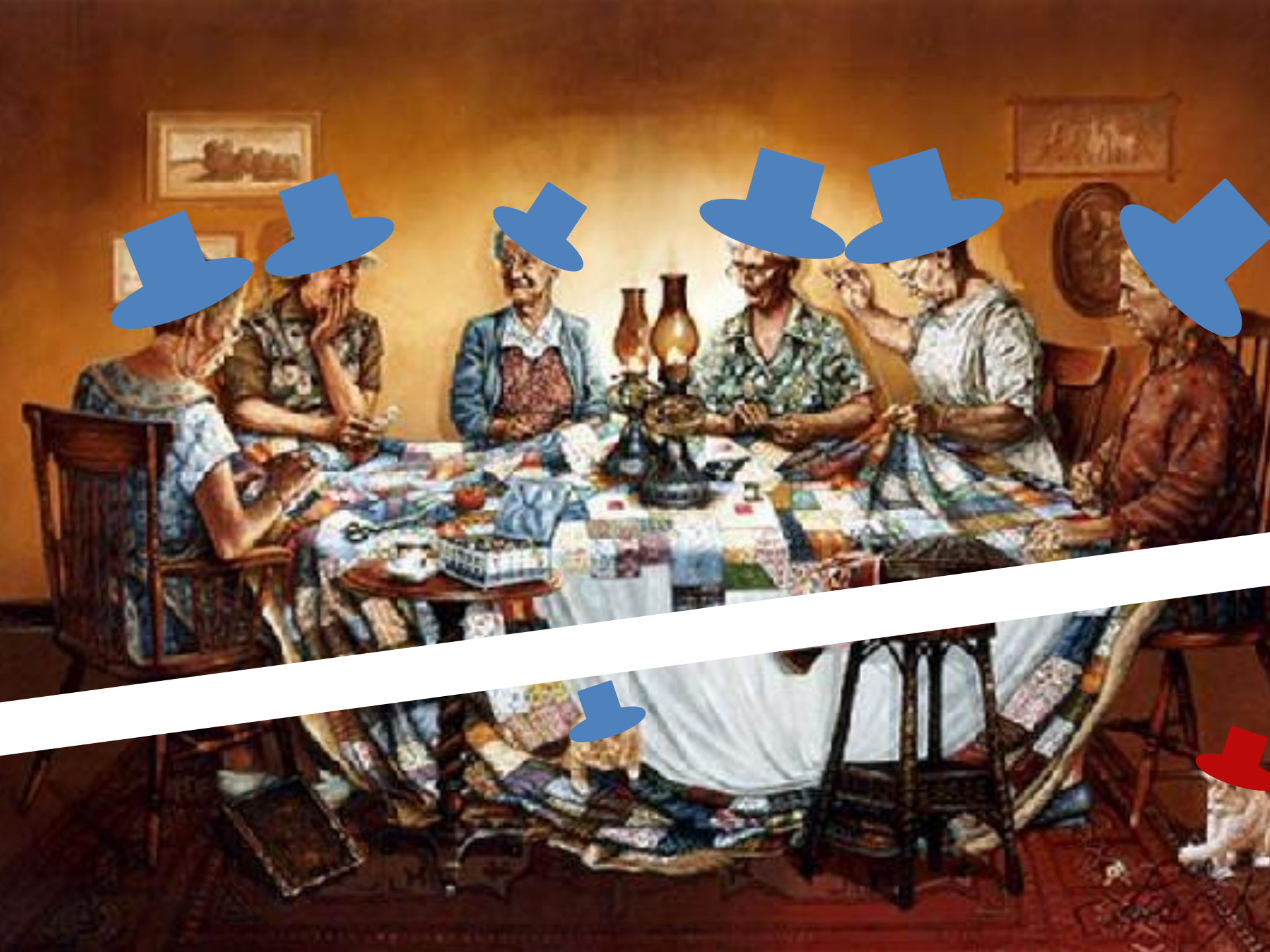

CASINO
mate!

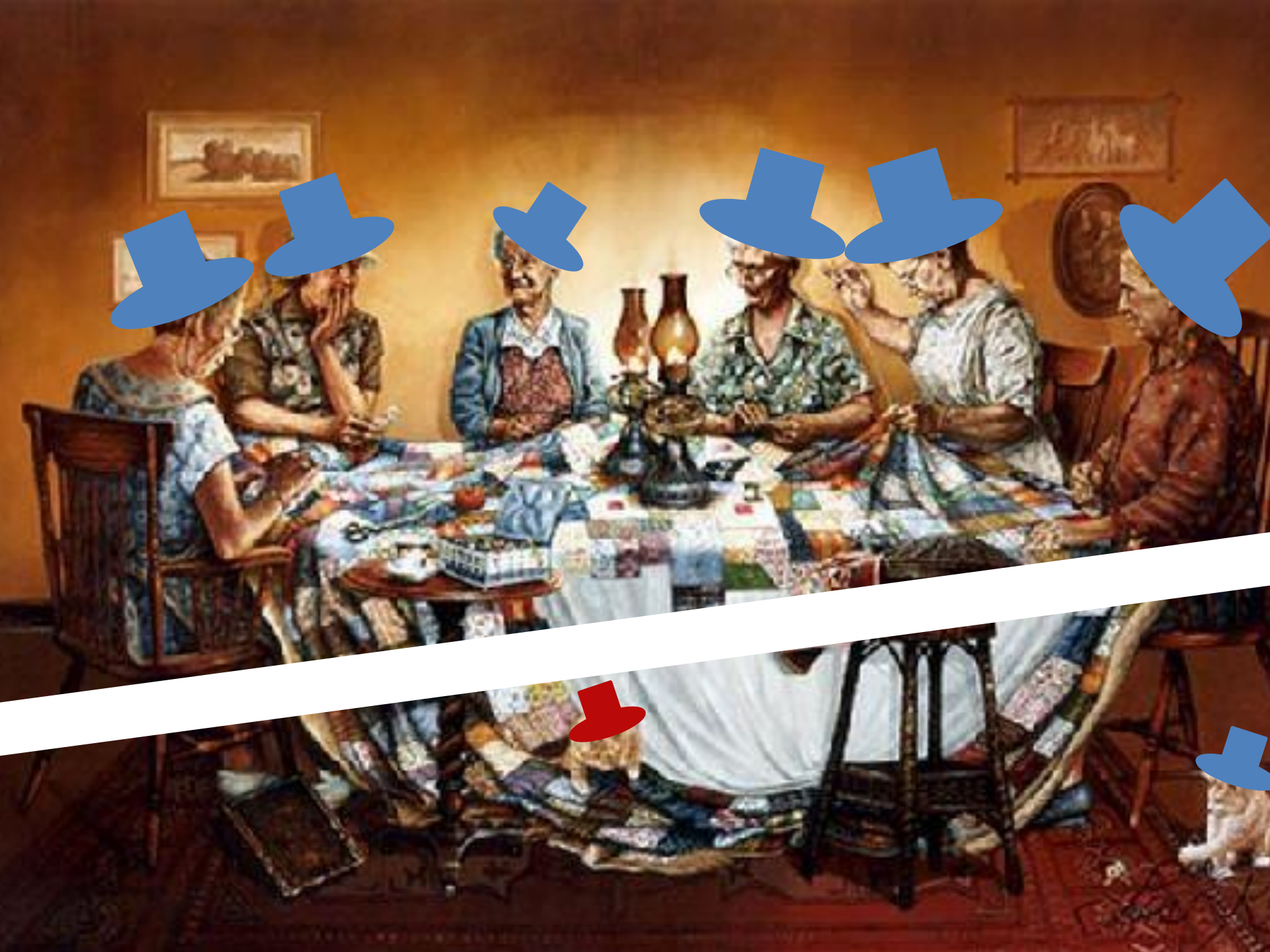


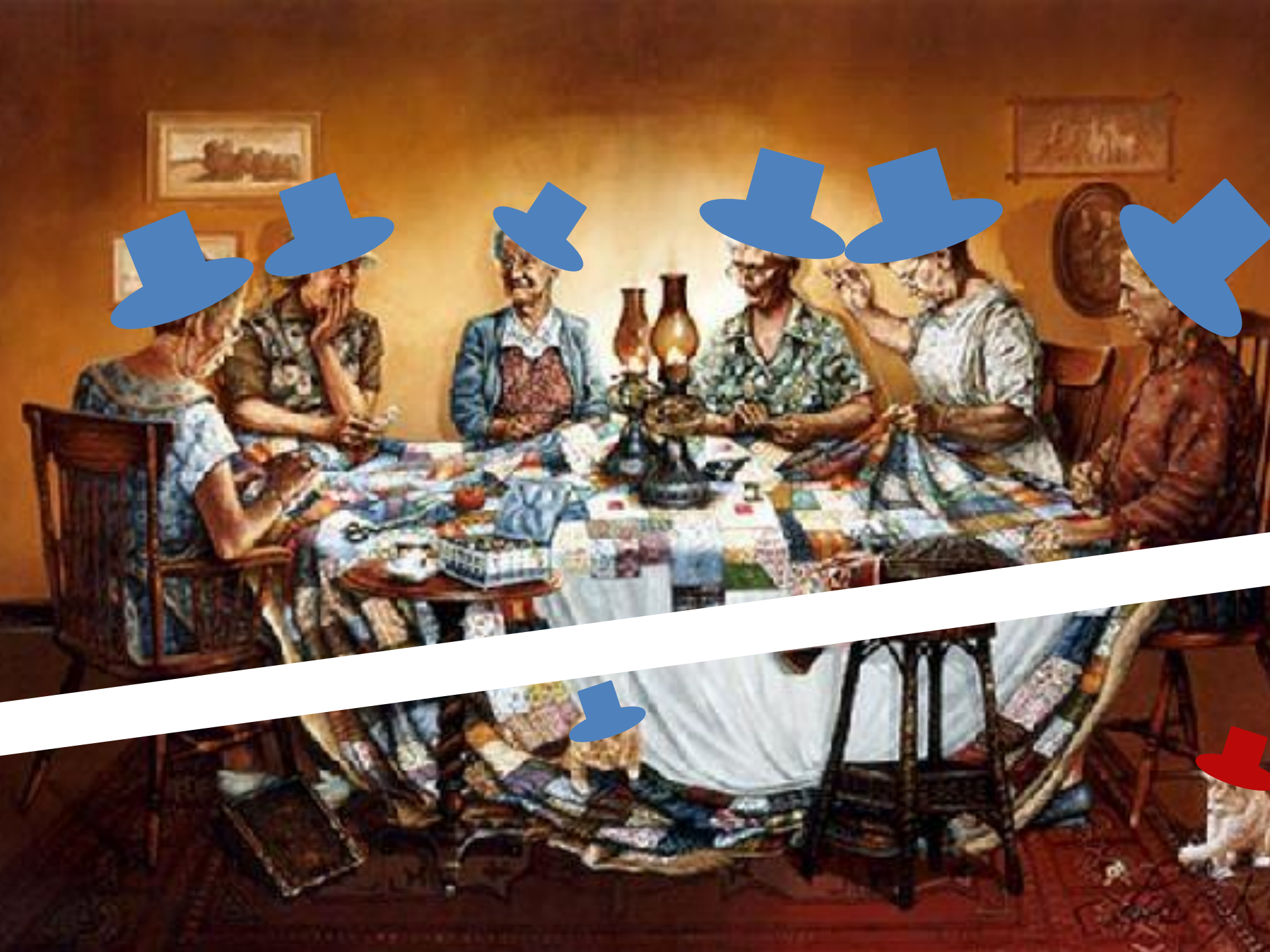
Simple World

Opinion changes: Whatever the majority of my friends think





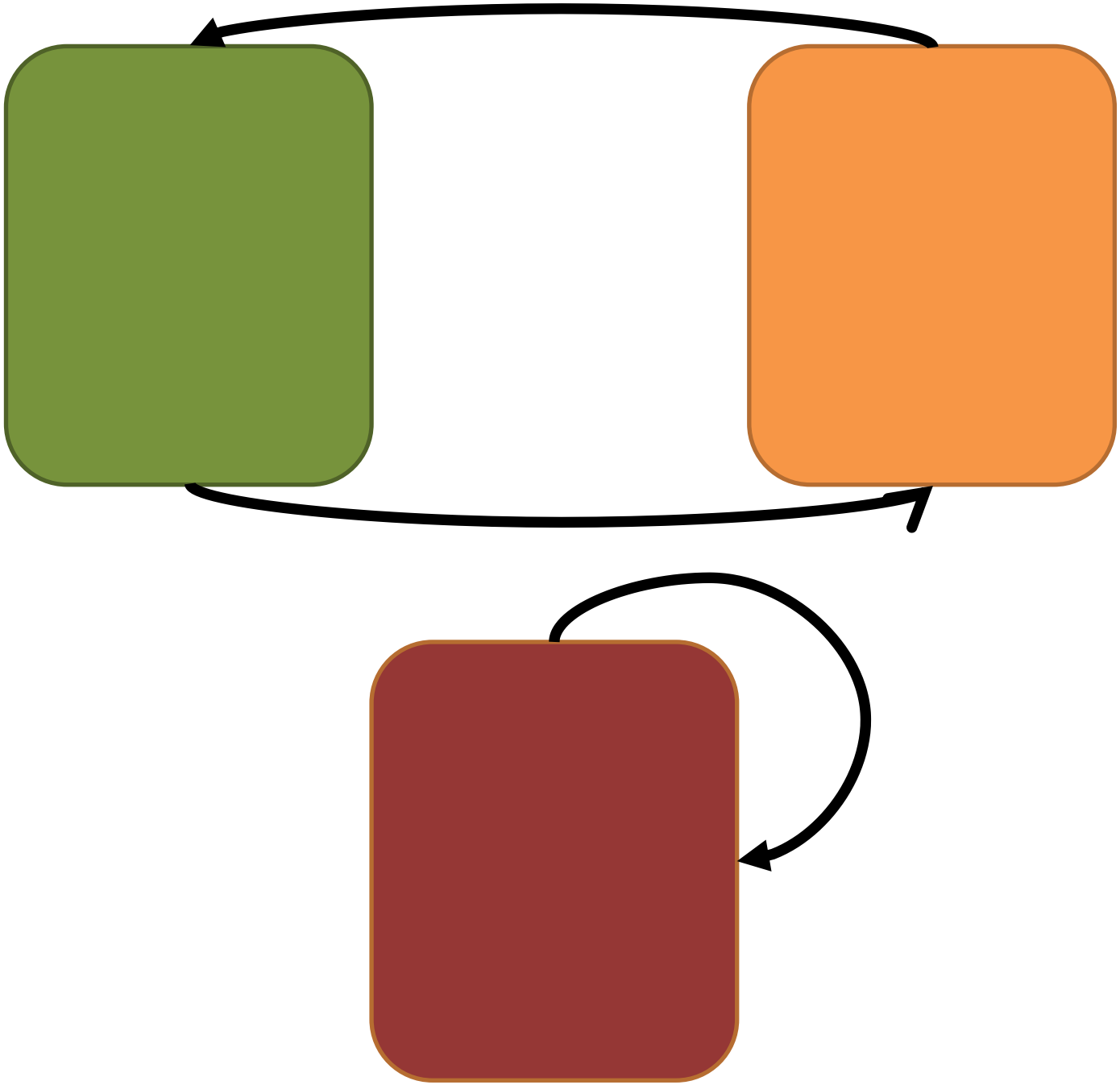




What Can Happen?

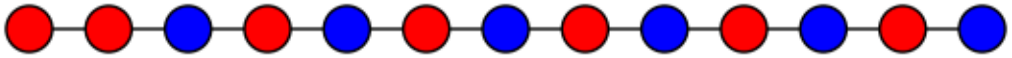
and/or

Goles and Olivios 1980




MONDAINE
SBB CFF FFS
OFFICIAL RAILWAYS CLOCK DESIGN

Easy Lower Bound: Ω(n)



Easy Lower Bound: Ω(n)

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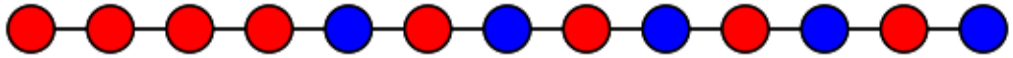
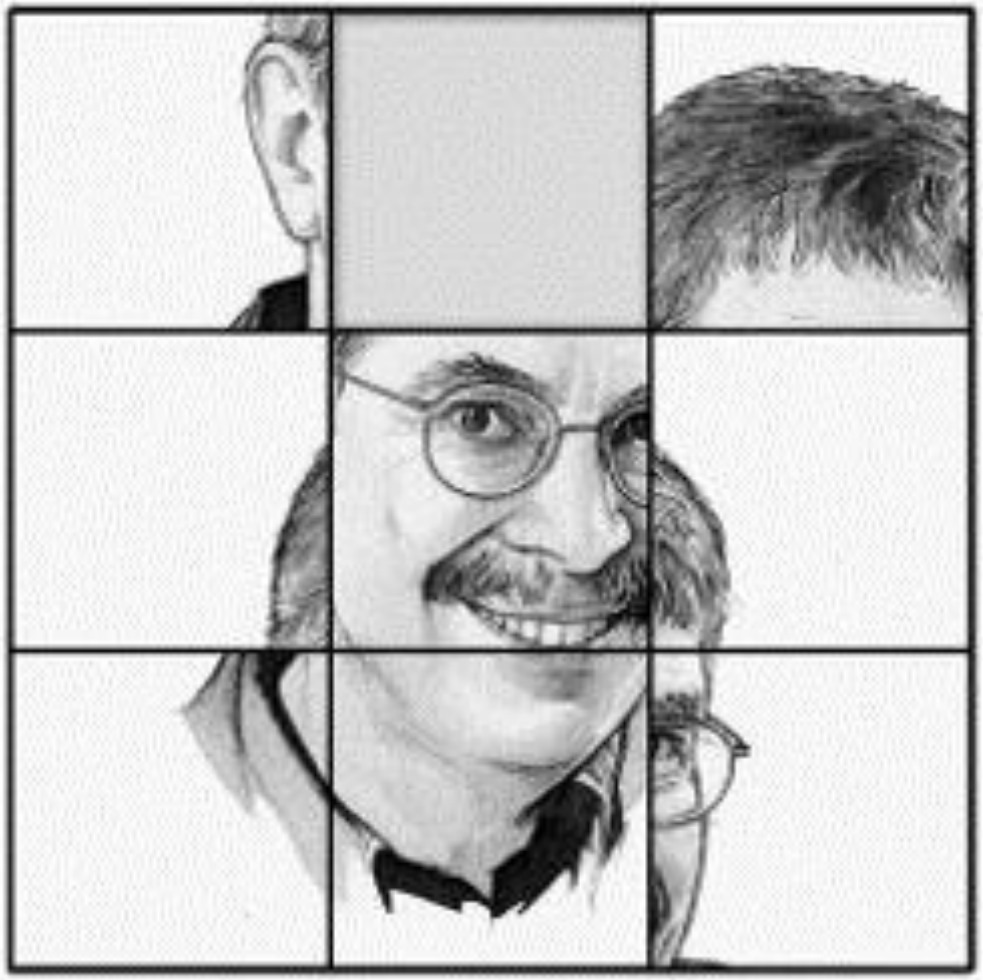


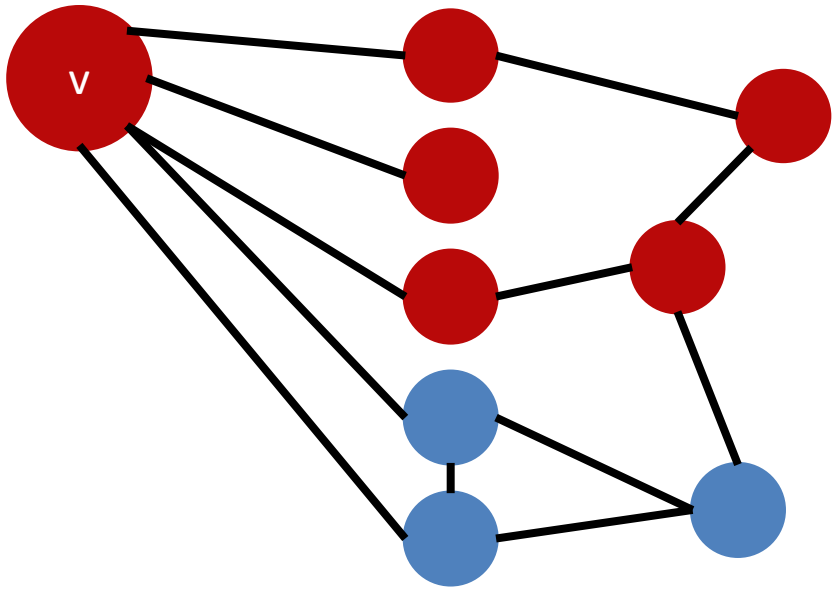
Easy Lower Bound: Ω(n)

Upper Bound?



Winkler 2008

Upper Bound: $O(n^2)$



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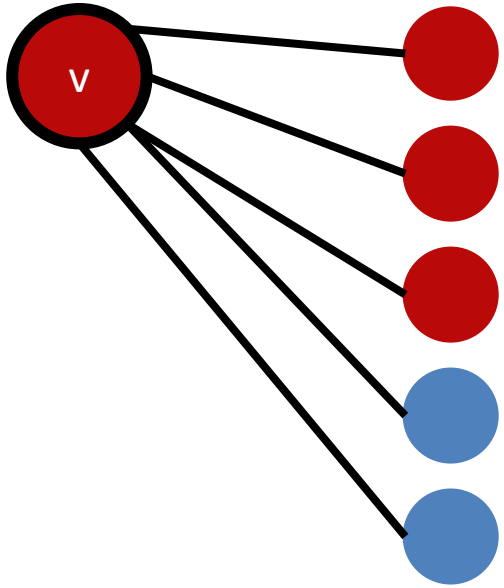

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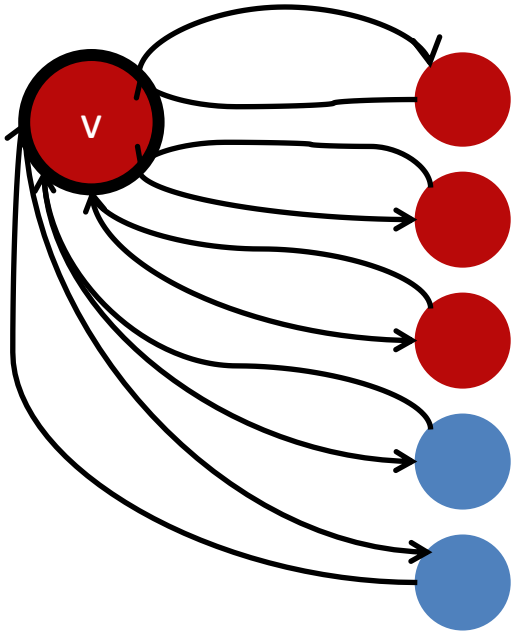
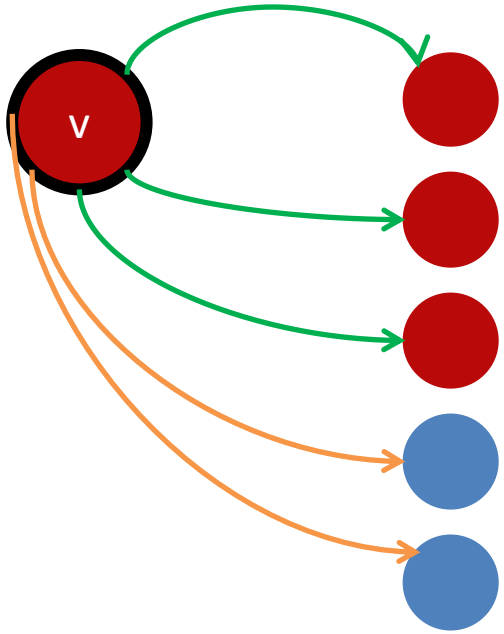


Upper Bound: $O(n^2)$

Good edge: Friend takes advised opinion on next day

Bad edge: Friend does not take the proposed opinion



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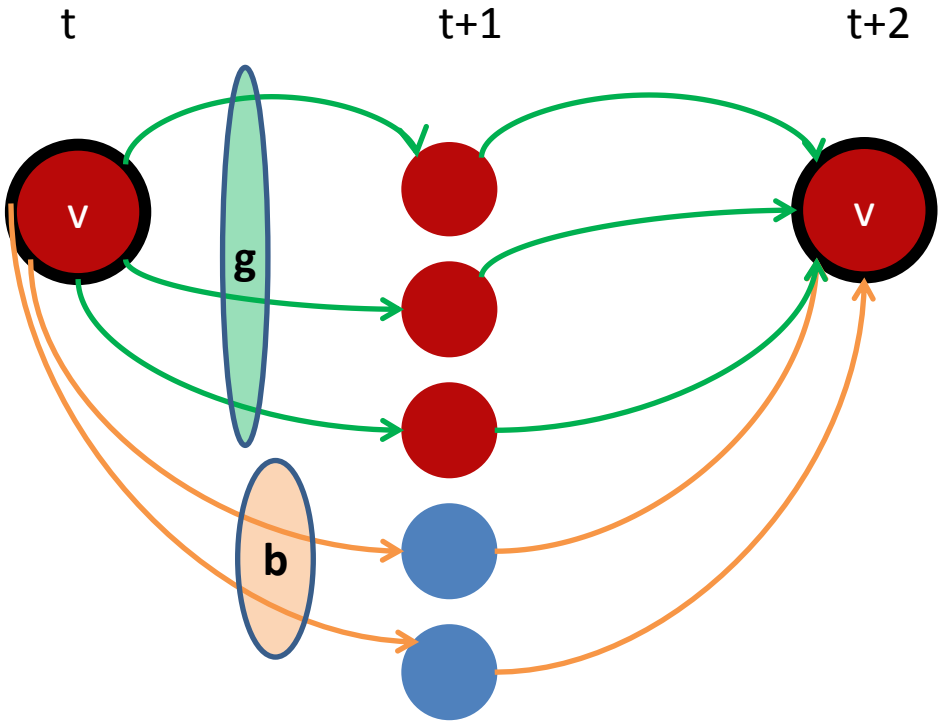

g: Nr. of good edges

b: Nr. of bad edges

case g > b

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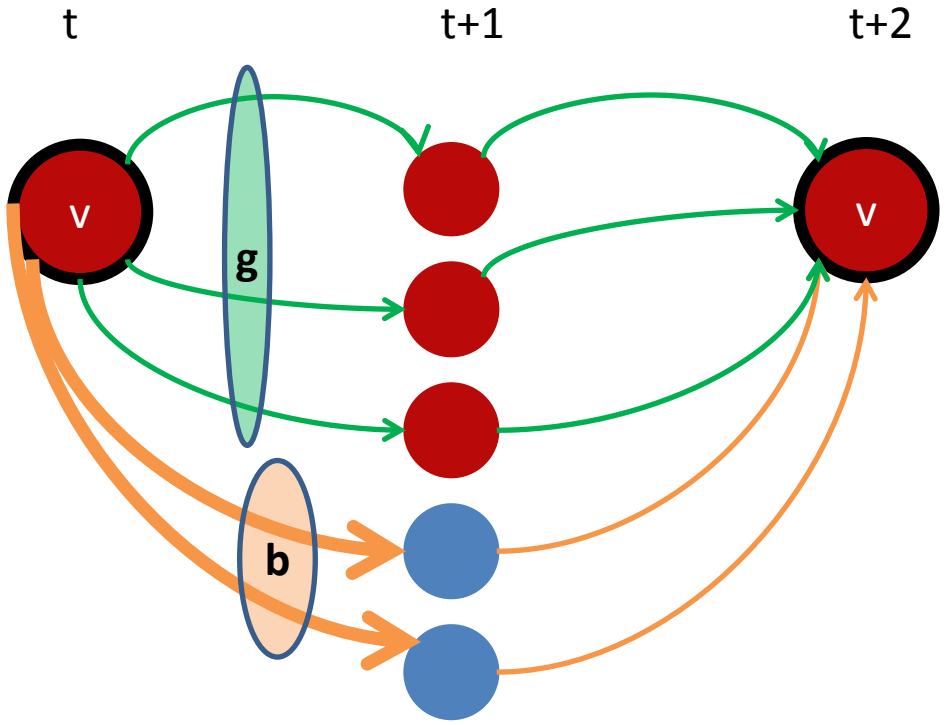

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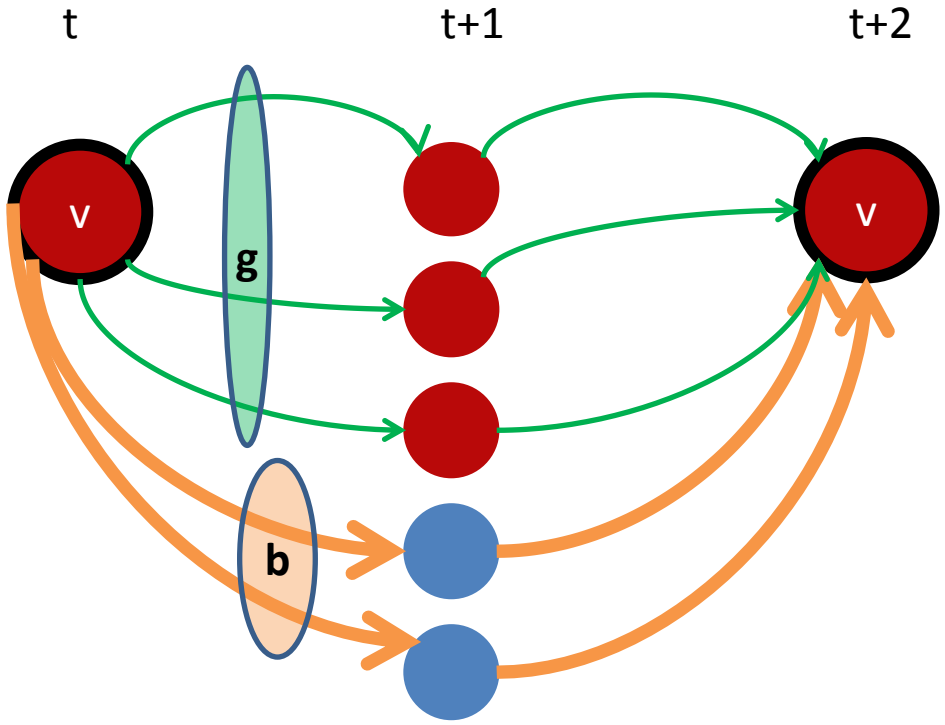

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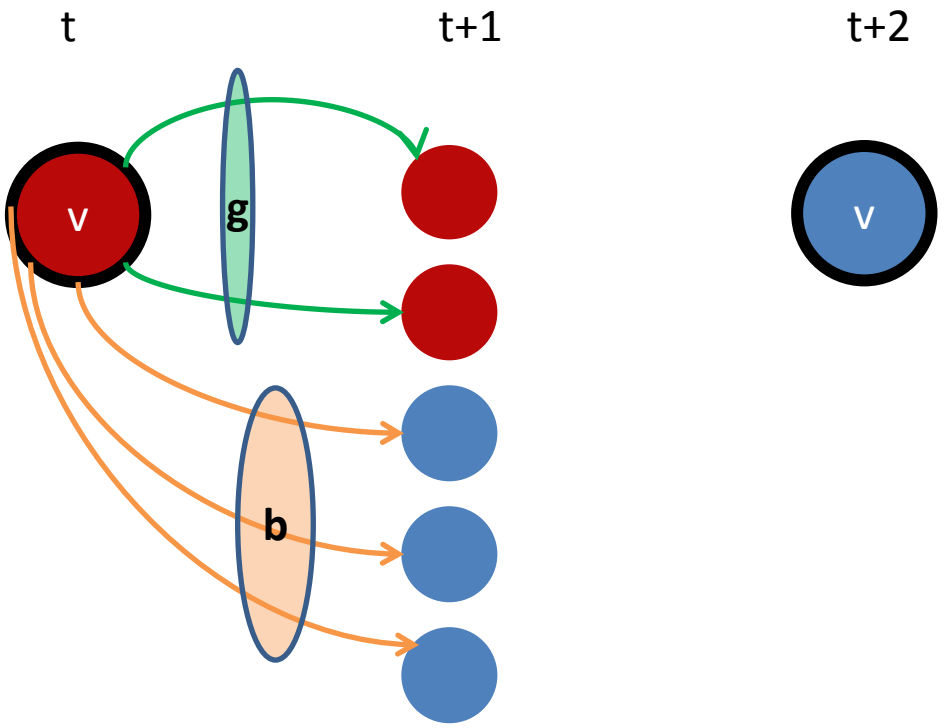

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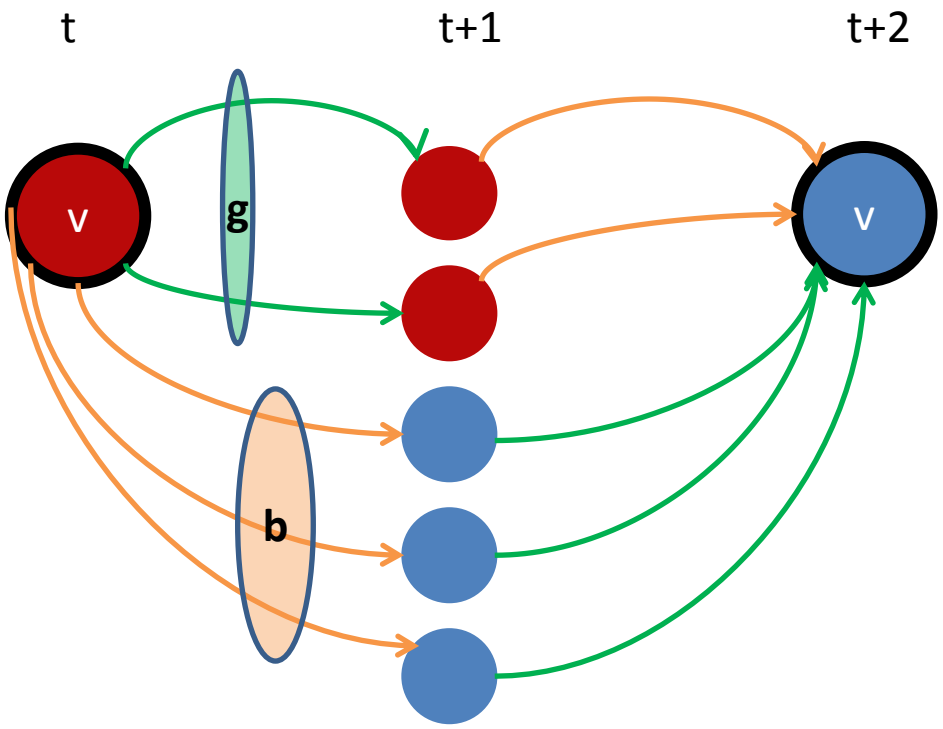

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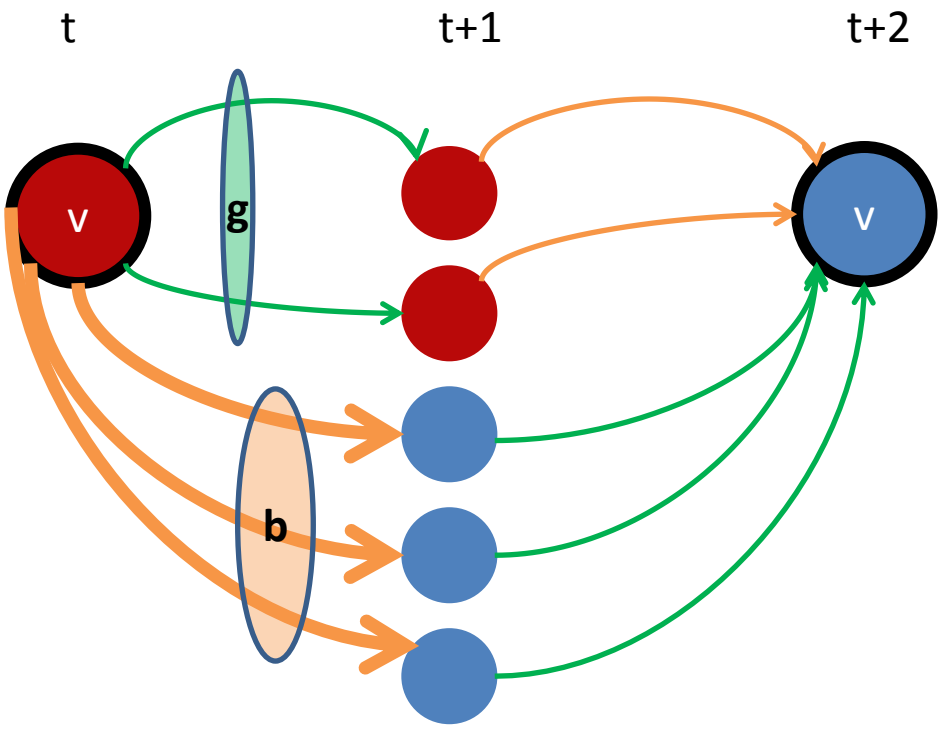

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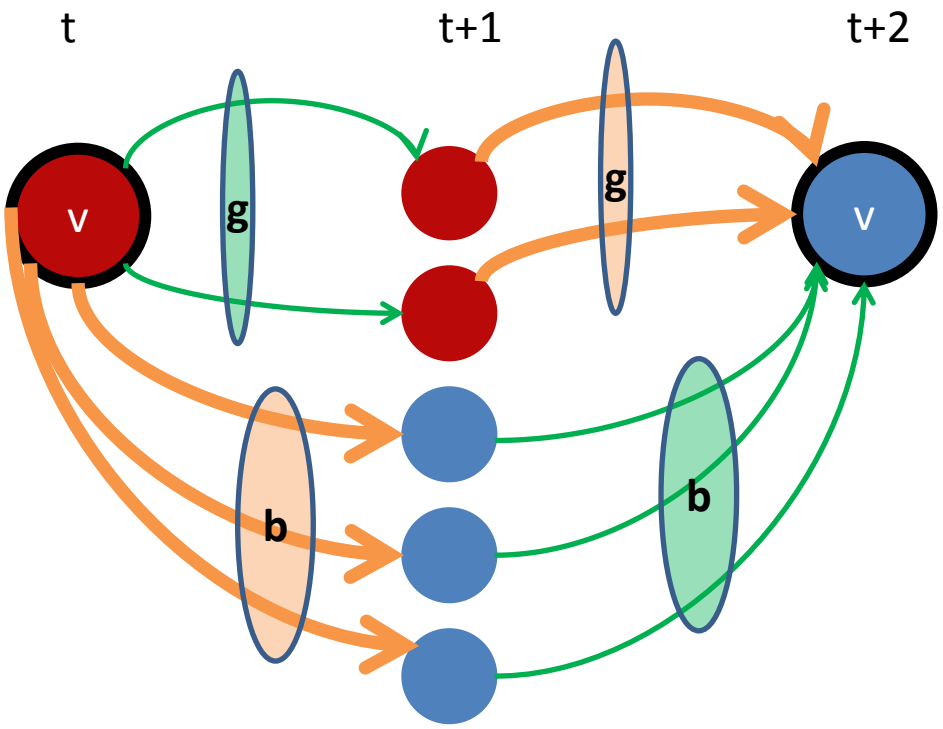

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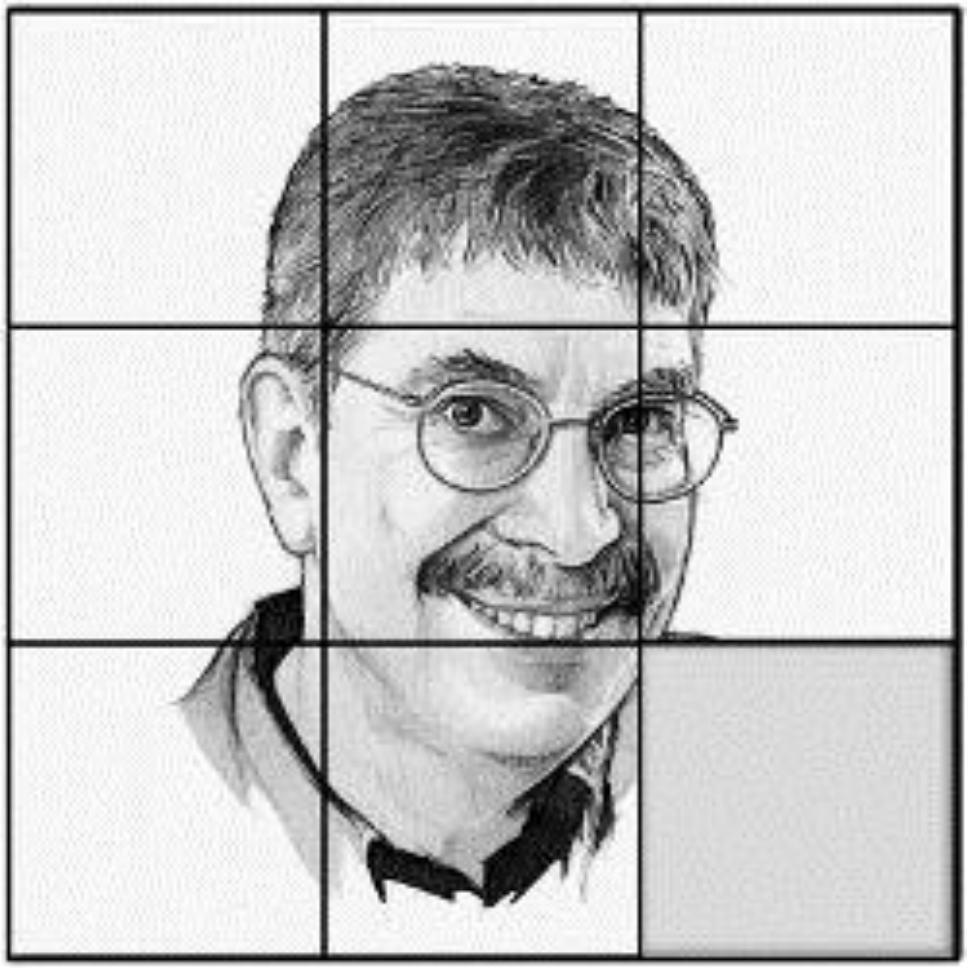


Winkler 2008

Tight Bound?

Lower bound

n

vs.

Upper bound

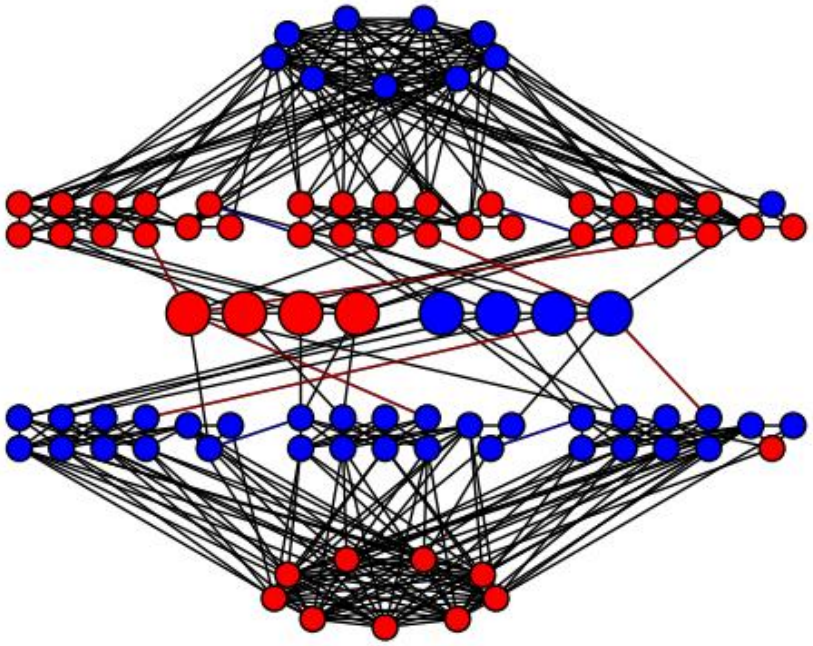
n^2

Let`s Vote

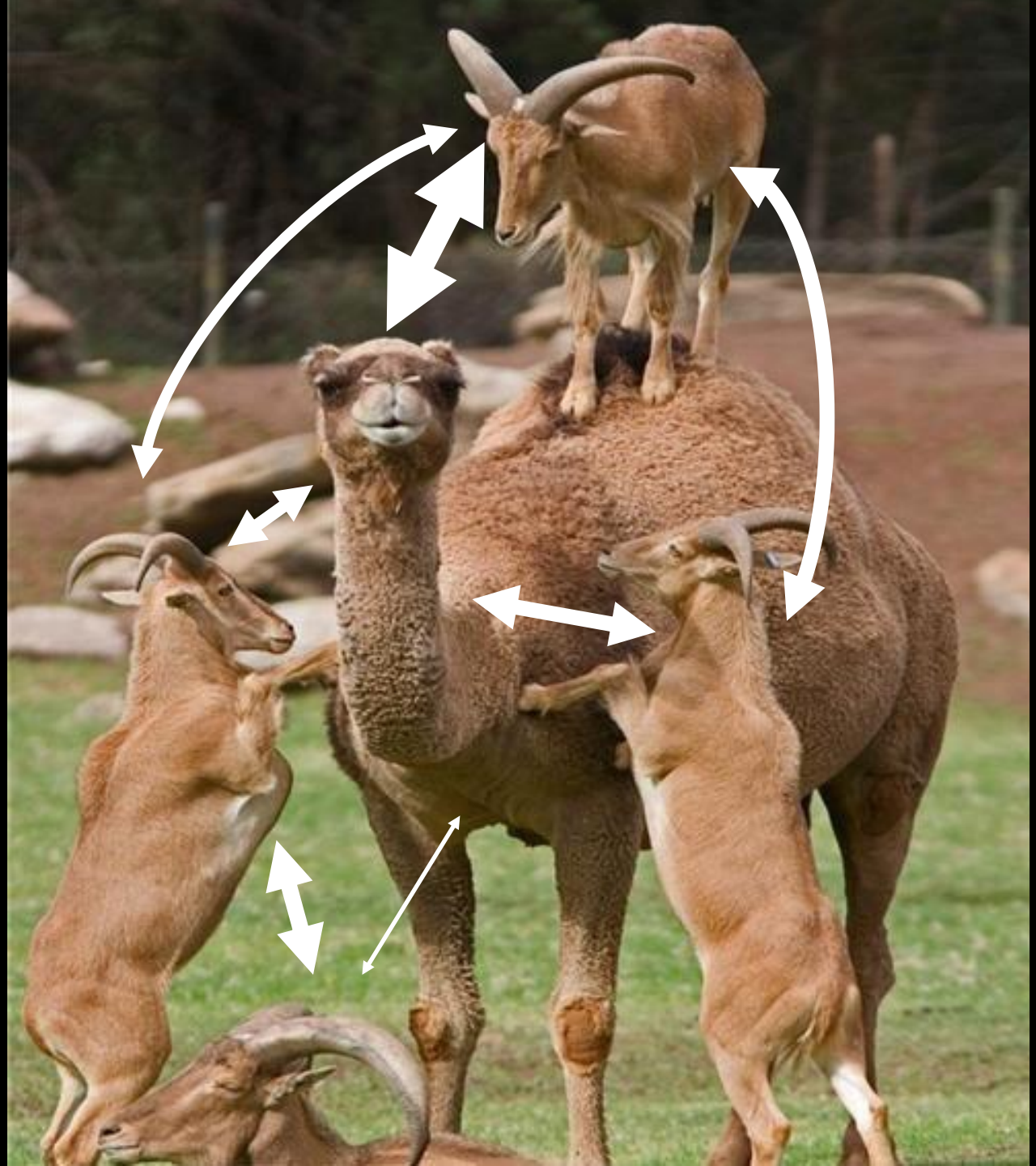
n vs. n^2

$$\frac{n^2}{\log^2 n}$$

Simpler Example: $n\sqrt{n}$



Different Models




changes
ahead?

Let`s Vote Again!

No! → $O(n^2)$

Only a Little Bit! → $n^{2+O(1)}$

Yes! → $2^{\Theta(n)}$

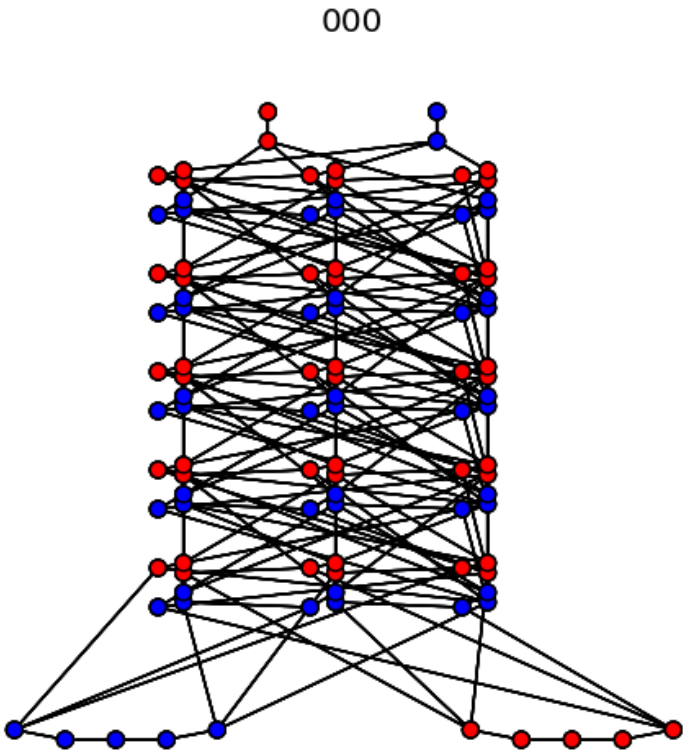
Let`s Vote Again!

No! → $O(n^2)$

Only a Little Bit! → $n^{2+O(1)}$

Yes! → $2^{\Theta(n)}$

Animations

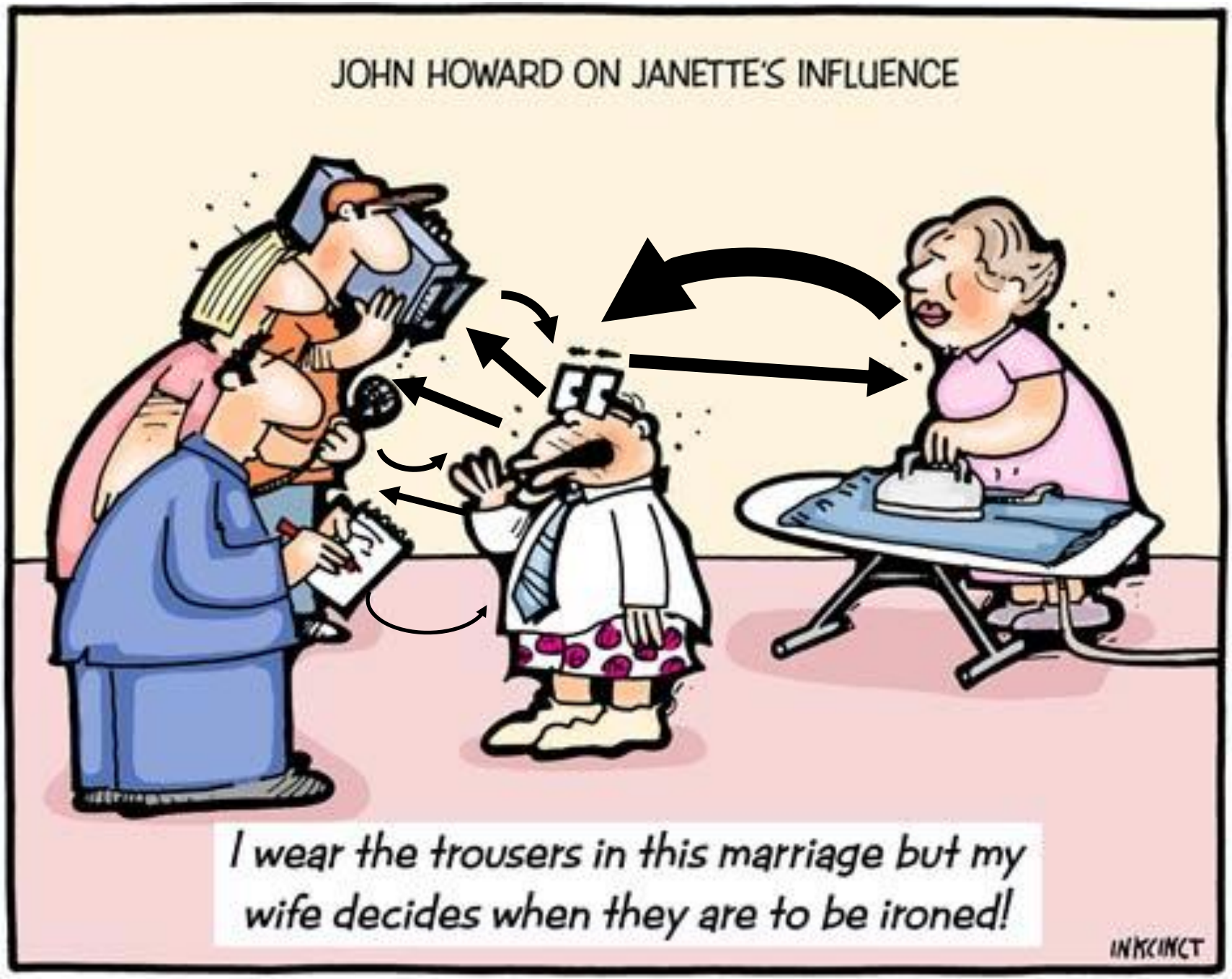


http://www.disco.ethz.ch/members/barkelle/FUN.zip

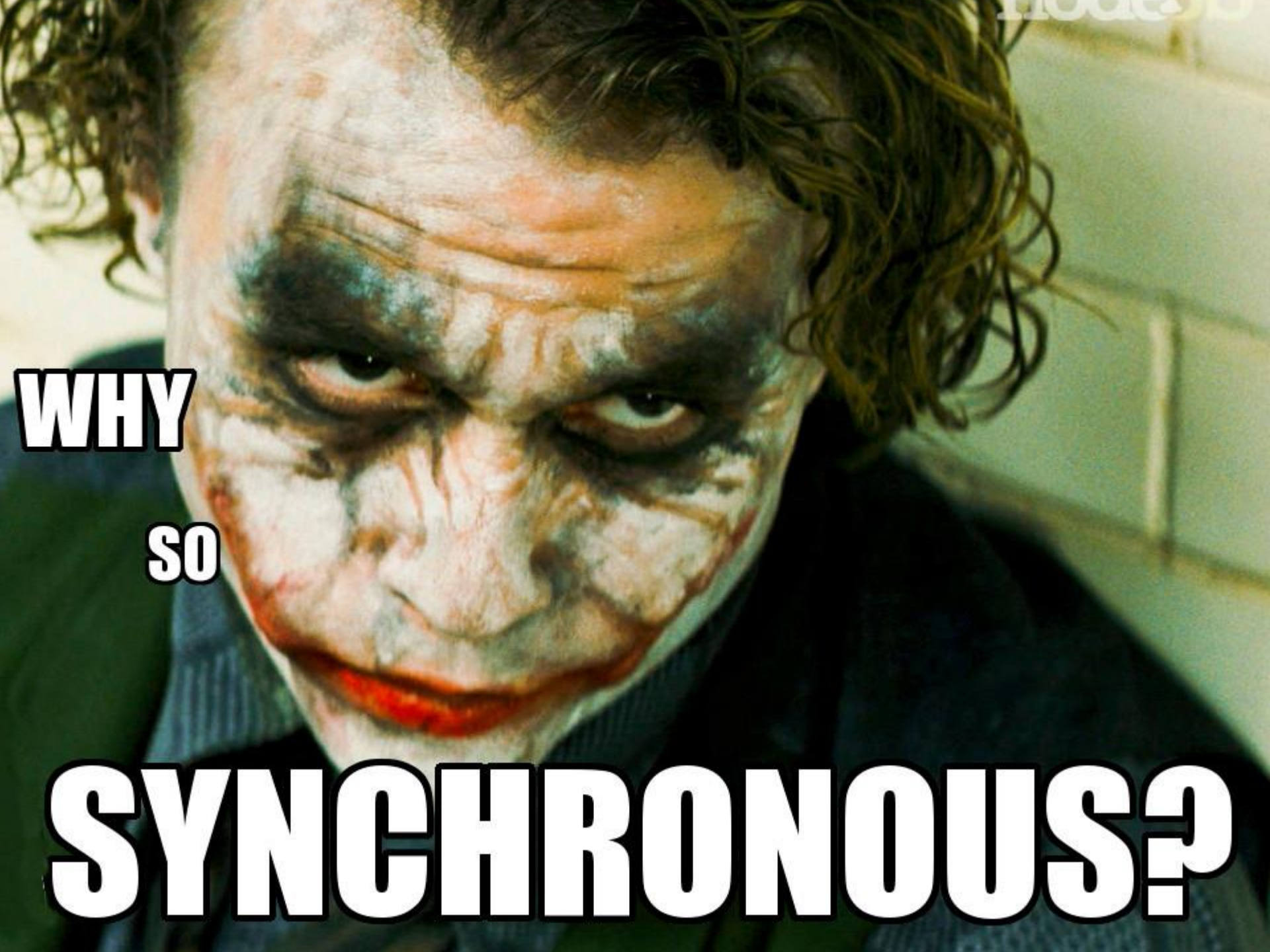
9001

-9001


Sorry
NO
CHANGE




Exponentially long circles!


WHY
SO
SYNCHRONOUS?

San Rocco or Ulisse?


CAFFE
S. ROCCO

Grazie!