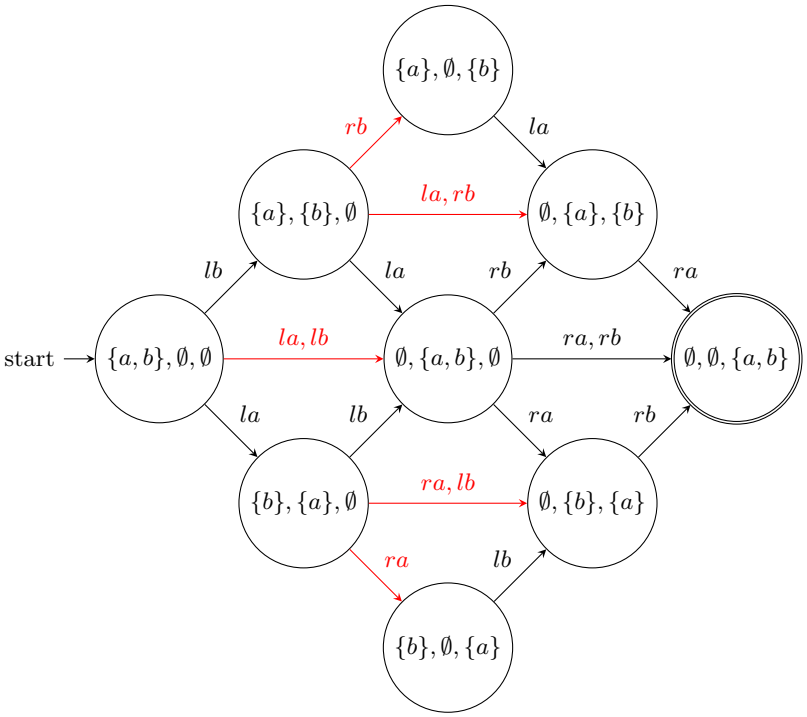
Given a finite non-empty set A, the set 3^A of functions from A to $3 = \{0, 1, 2\}$ is isomorphic to set the of triples (U, L, D) of disjoint subsets of A with union A. A triple (U, L, D) picks out the $u$nborn, $l$iving and $d$ead under the transitions

$$(U, L, D) \rightsquigarrow (U', L', D') \iff U' \subseteq U \text{ and } L \neq L' \text{ and } D \subseteq D' \subseteq L \cup D$$

For $A = \{a, b\}$, we can label the transitions with the left (la, lb) and right (ra, rb) end points of a and b in the arrangement



Arcs in red are used to classify paths from $(\{a, b\}, \emptyset, \emptyset)$ to $(\emptyset, \emptyset, \{a, b\})$ in 2 flavours, assuming transition probabilities are assigned uniformly (either 1 or 1/3 for case $A = \{a, b\}$)

- 7 with a red arc: probability $\frac{1}{3}^2 = \frac{1}{9}$ for `bi, mi, s, eq, si, m, b`
- 6 with *no* red arc: probability $\frac{1}{3}^3 = \frac{1}{27}$ for `oi, f, d, di, fi, o`