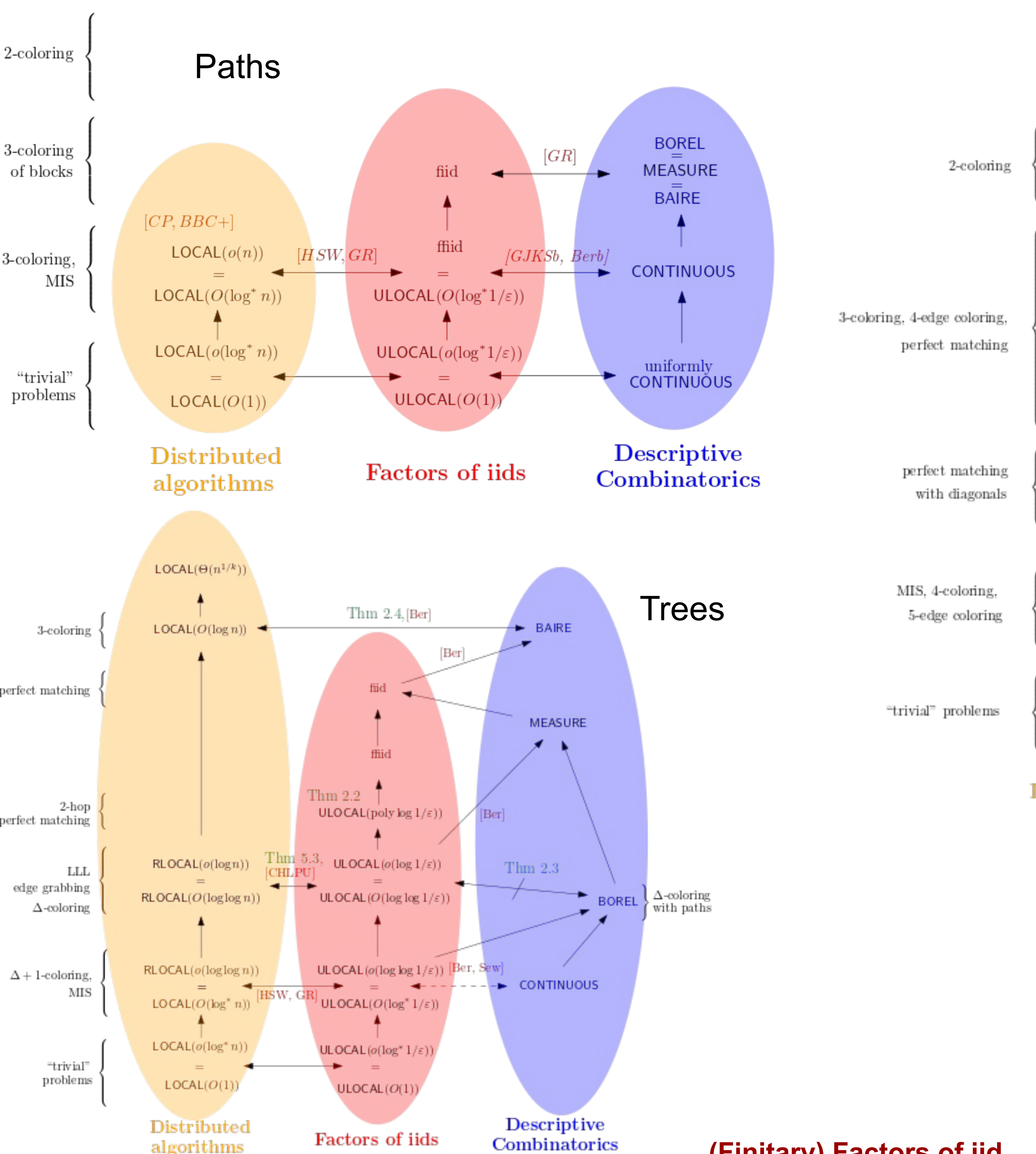


There are close connections between distributed algorithms and measure theoretic constructions.

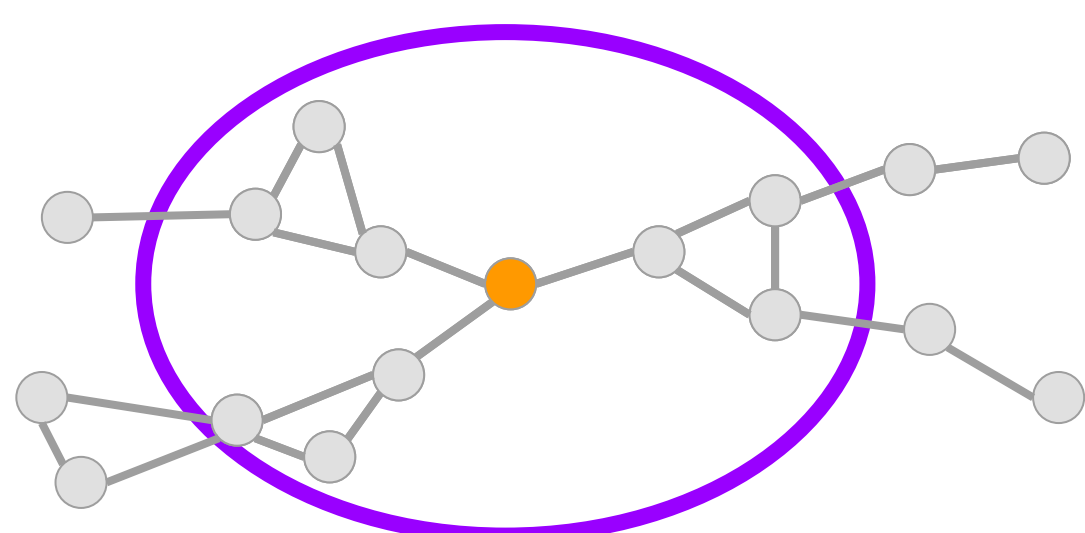


They can be used to get **new results** in both fields and suggest there is a **common theory** behind.



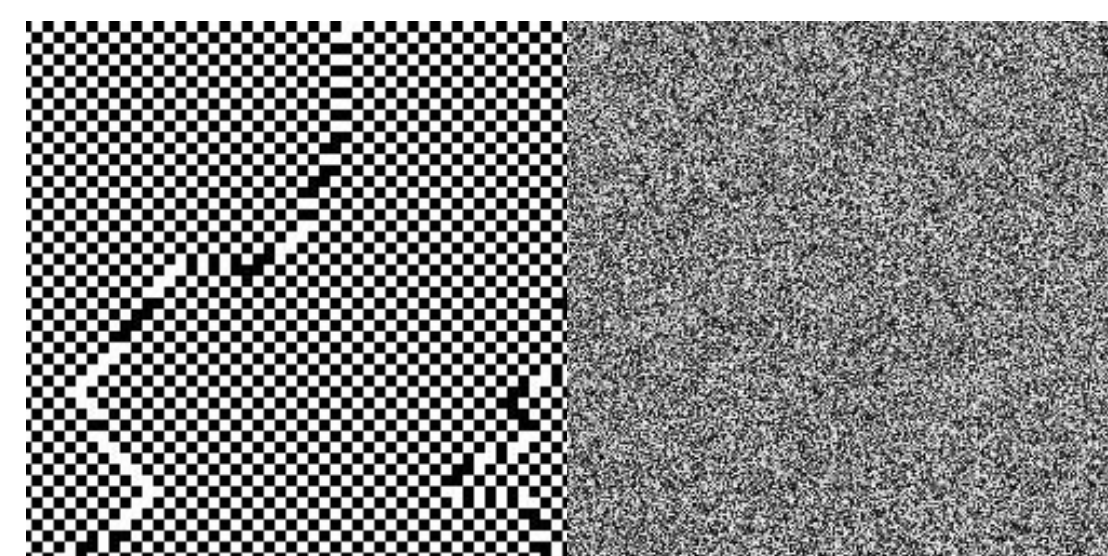
Distributed LOCAL algorithms

deterministic LOCAL t -round algorithm is a function mapping t -hop neighbourhoods to labels.



(Finitary) Factors of iid

Ising distribution is generated by a uniform local algorithm (= finitary factor of iid) if temperature is high enough.



A free riddle!



A riddle from **Descriptive Combinatorics**

Color every point of a unit cycle such that

- no two vertices 1 radian apart have the same color
- vertices of the same color are finite union of intervals

How many colors do you need?

