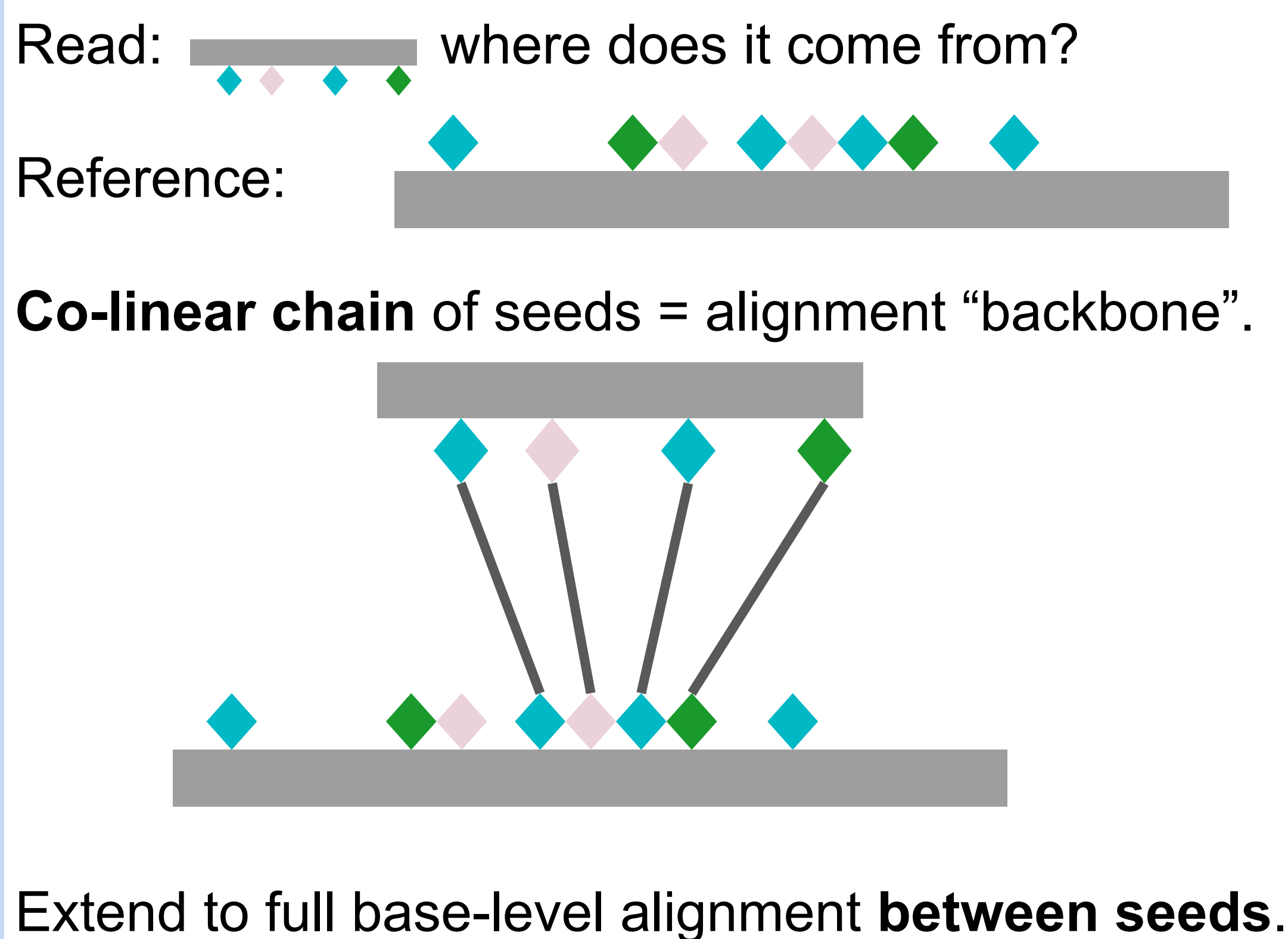


Long Read Giraffe: Past, Present, Future

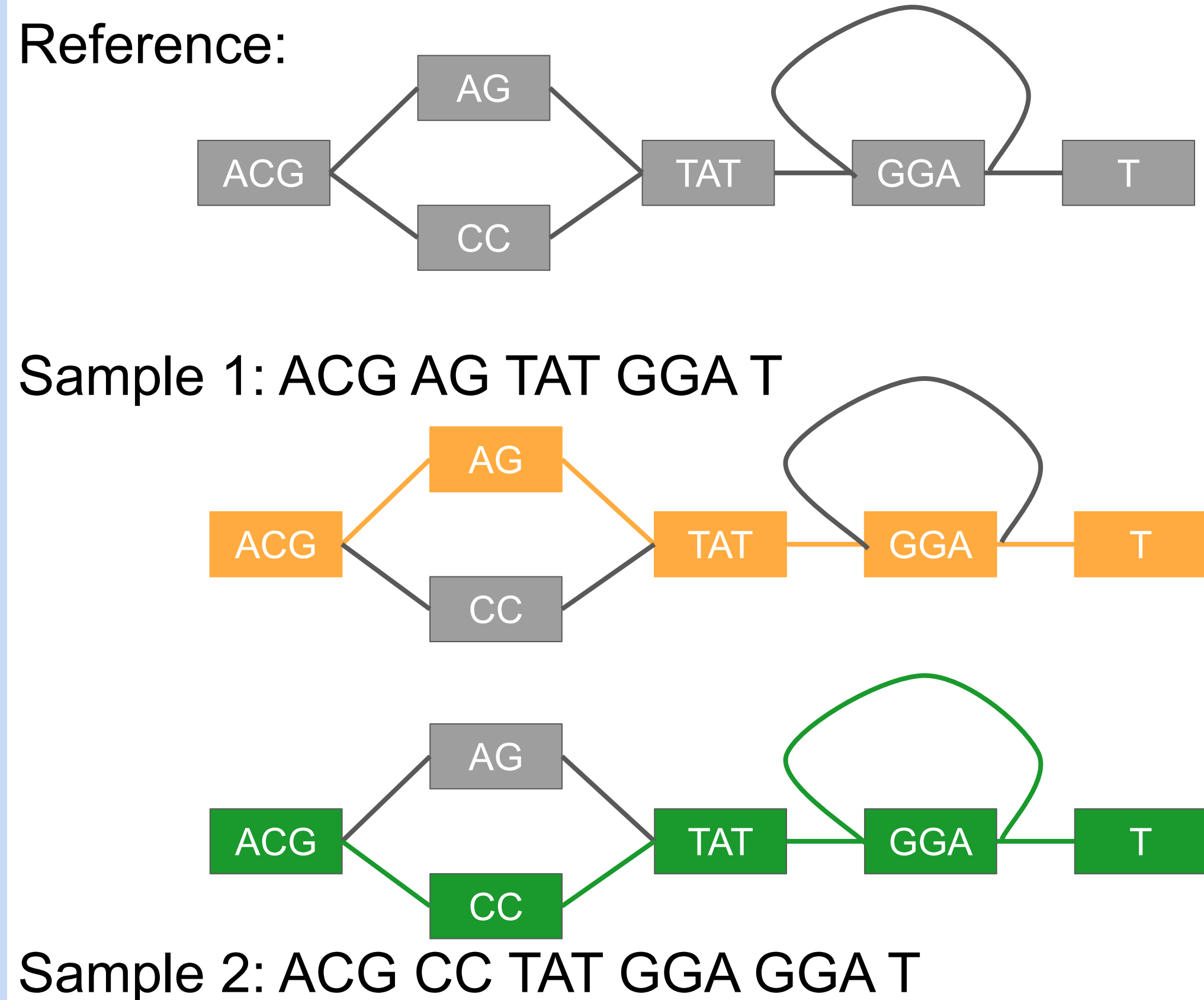


past

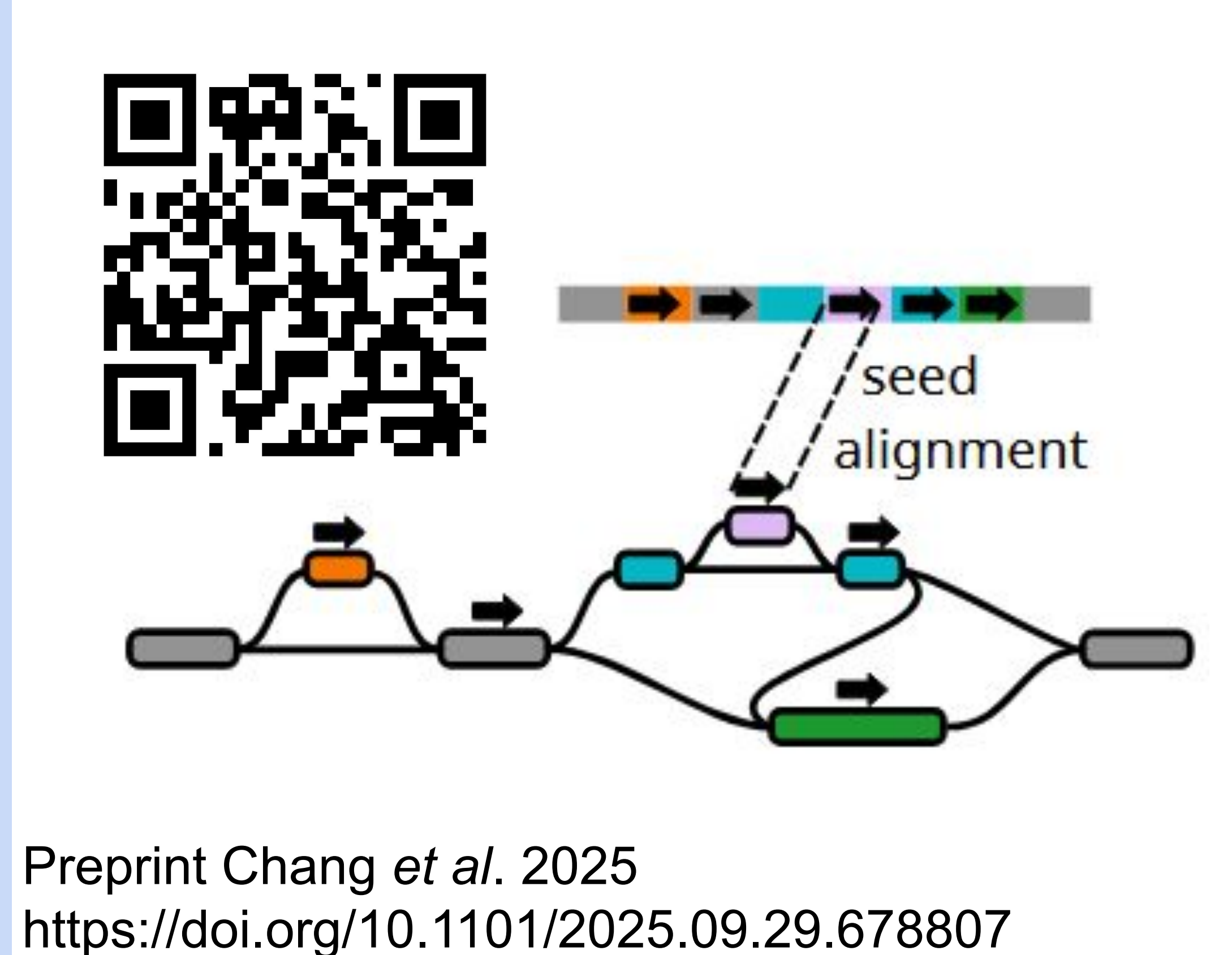
seed-chain-extend



pangenome graphs

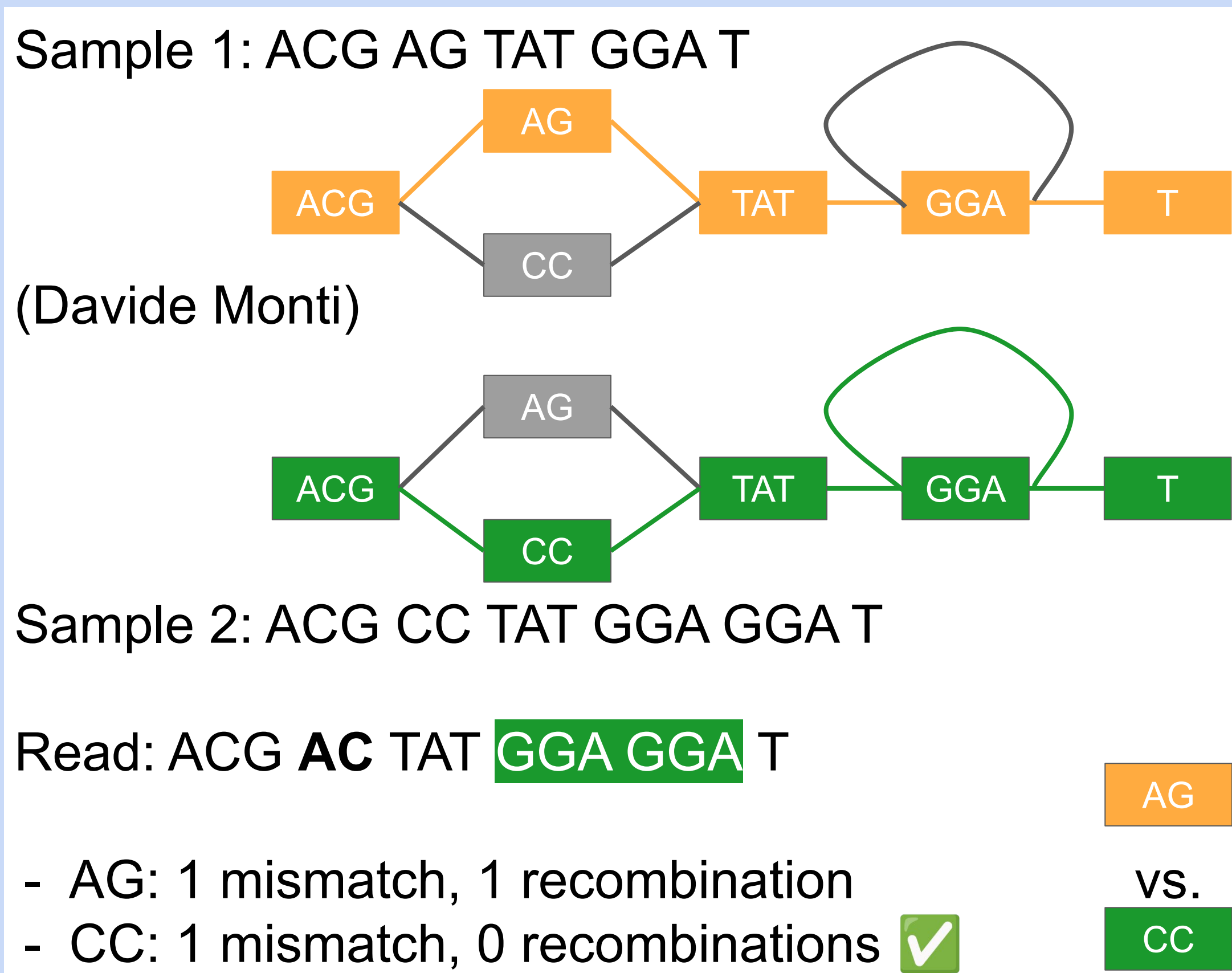


read-to-graph alignment

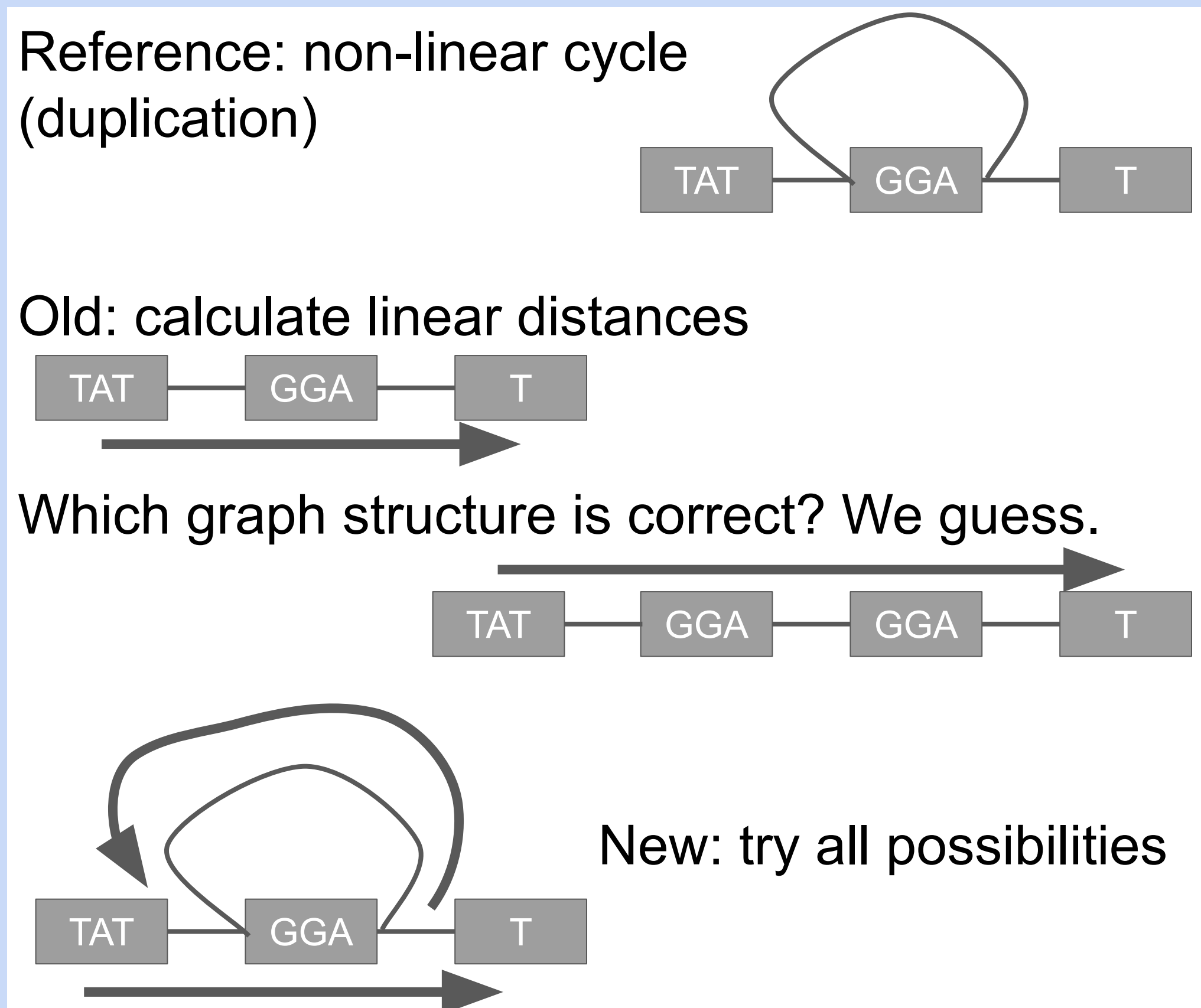


present

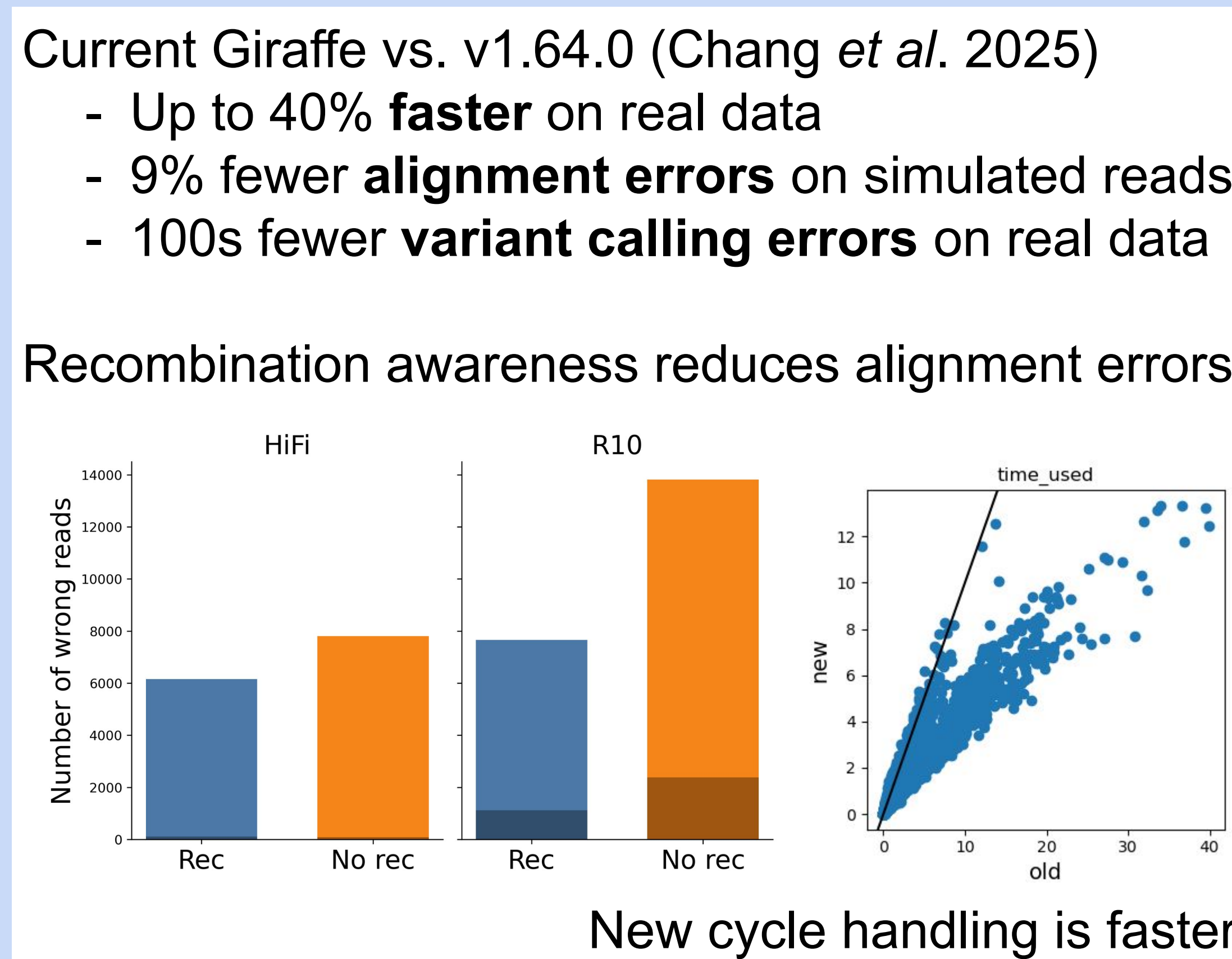
limiting recombinations



handling cycles

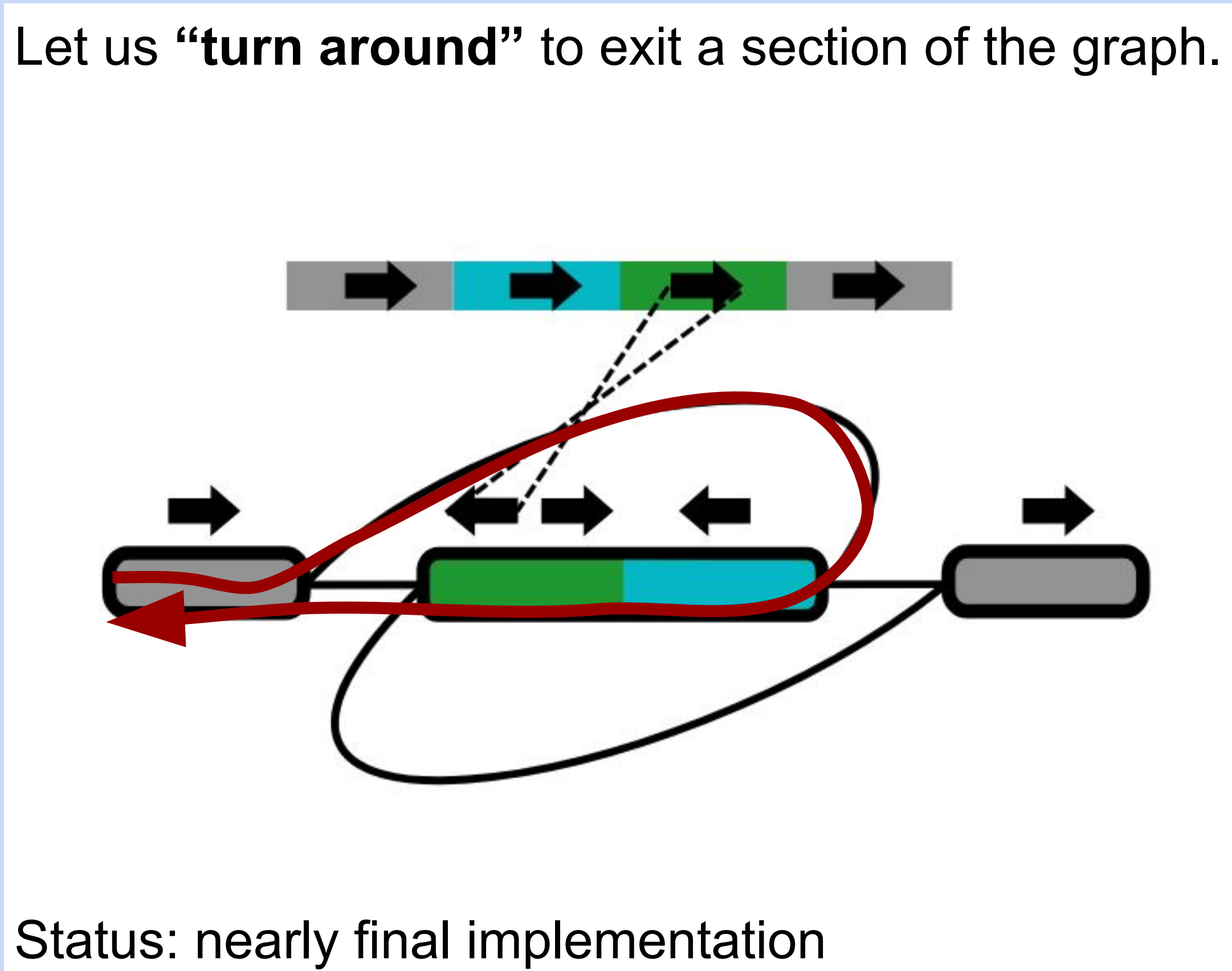


= improvements

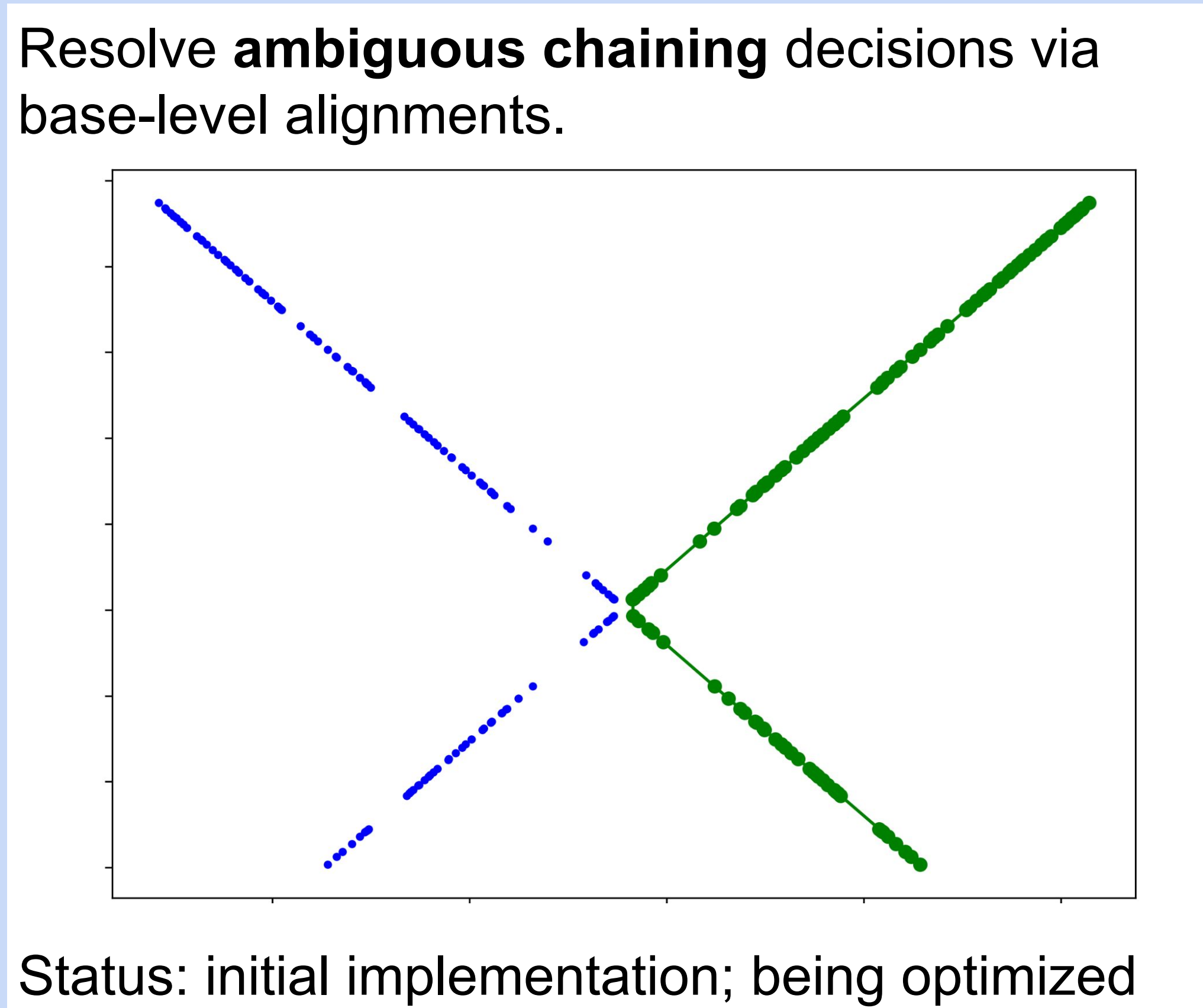


future

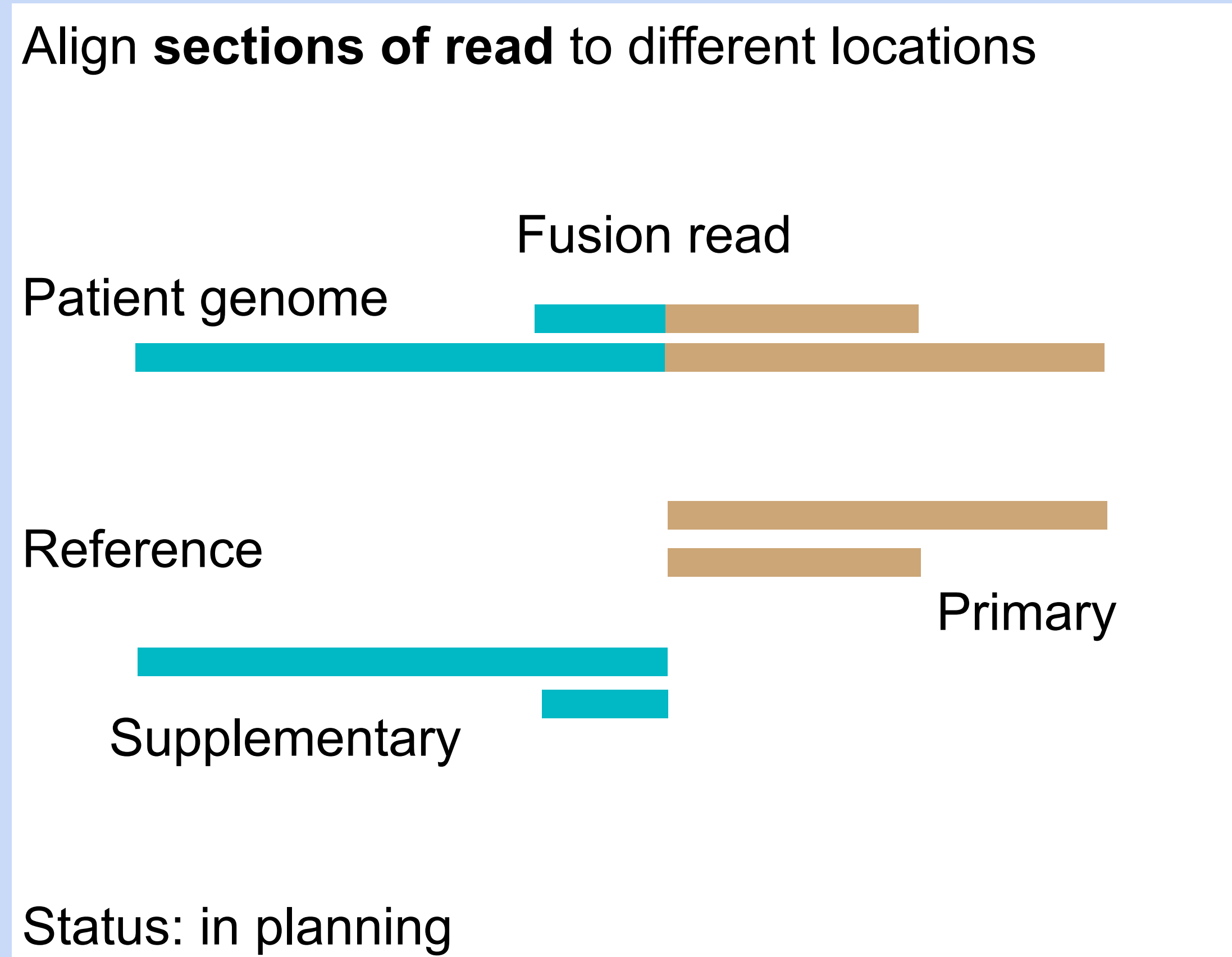
reversals



multipath chaining



supplementary alignments



Other vg pipeline work

- Simplified chaining from two steps to one (Adam Novak)
- --diploid-mode for **personalized assemblies** (Sagorika Nag)
- Efficient **distance index** creation (Zia Truong)
- **Off-reference variant** calling (Glenn Hickey)
- UCSC **genome browser** integration (Parsa Eskandar)
- Reducing errors in **small variant calling** (Yulia Zybina)

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Some figures taken from
Chang *et al.* 2025;
I am a co-author.

