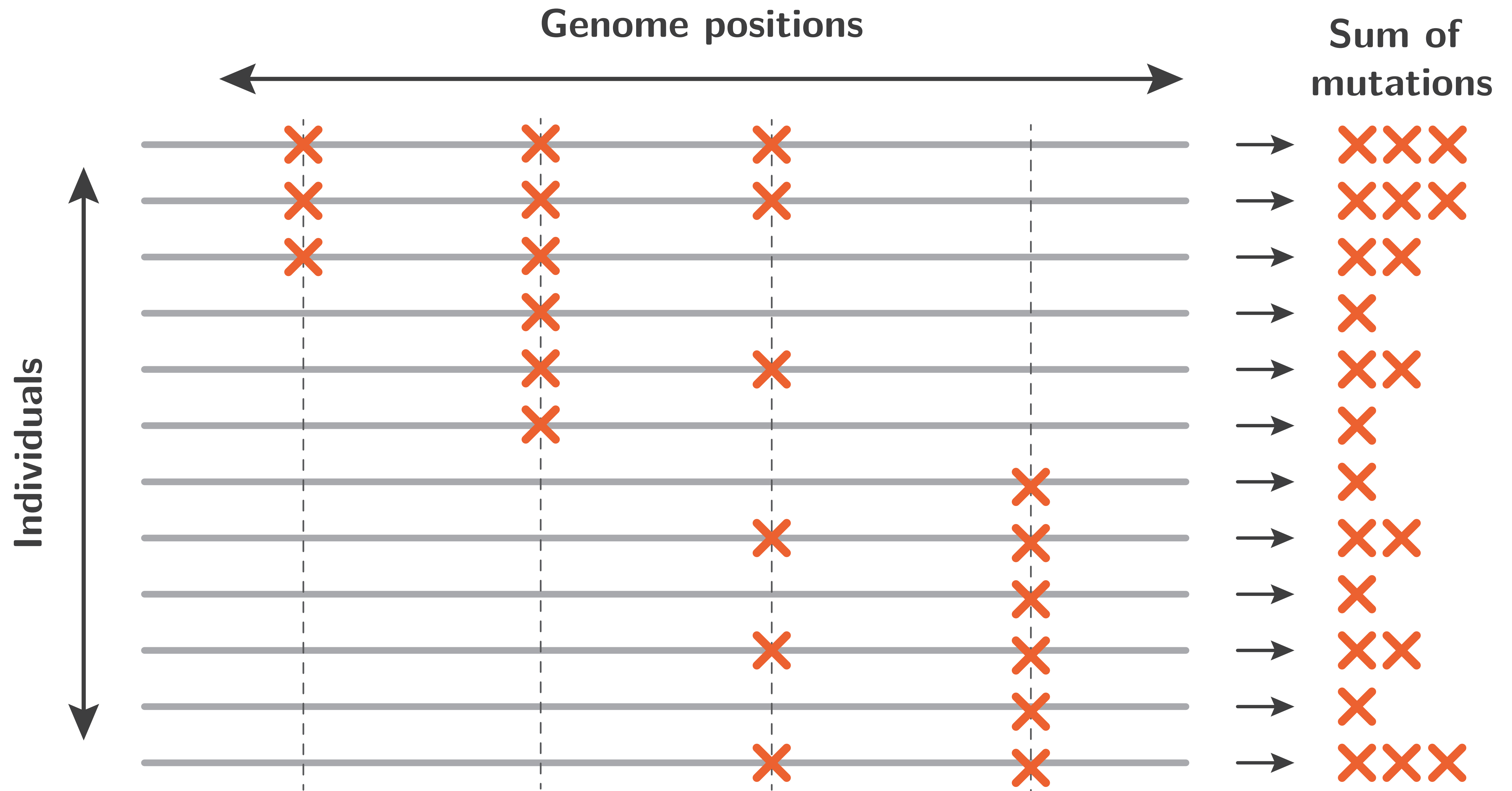


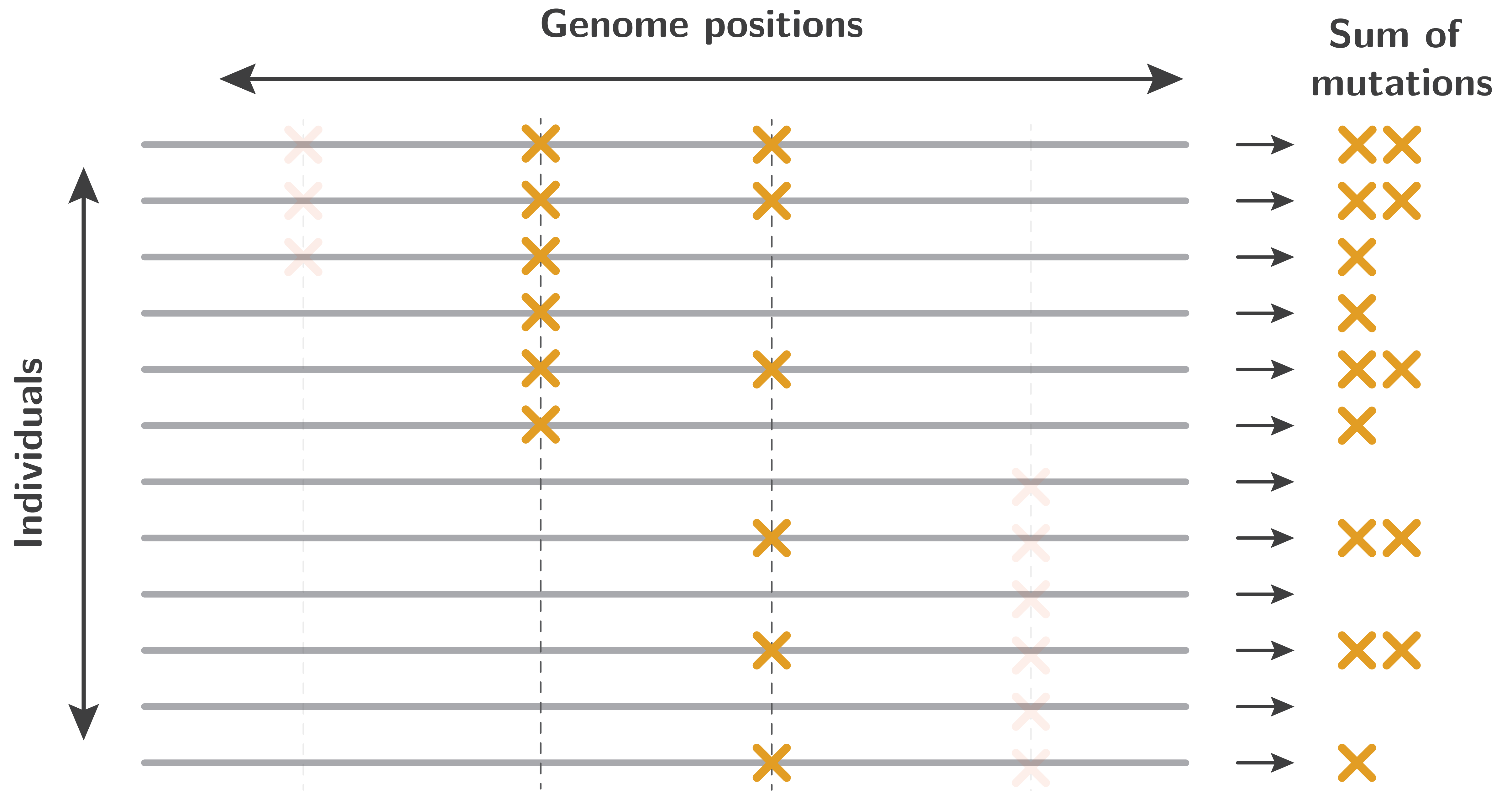
**Are deleterious mutation
independent of one another?**

**Is the deleterious effects more (or less)
than expected when deleterious mutation
are in the same individual?**

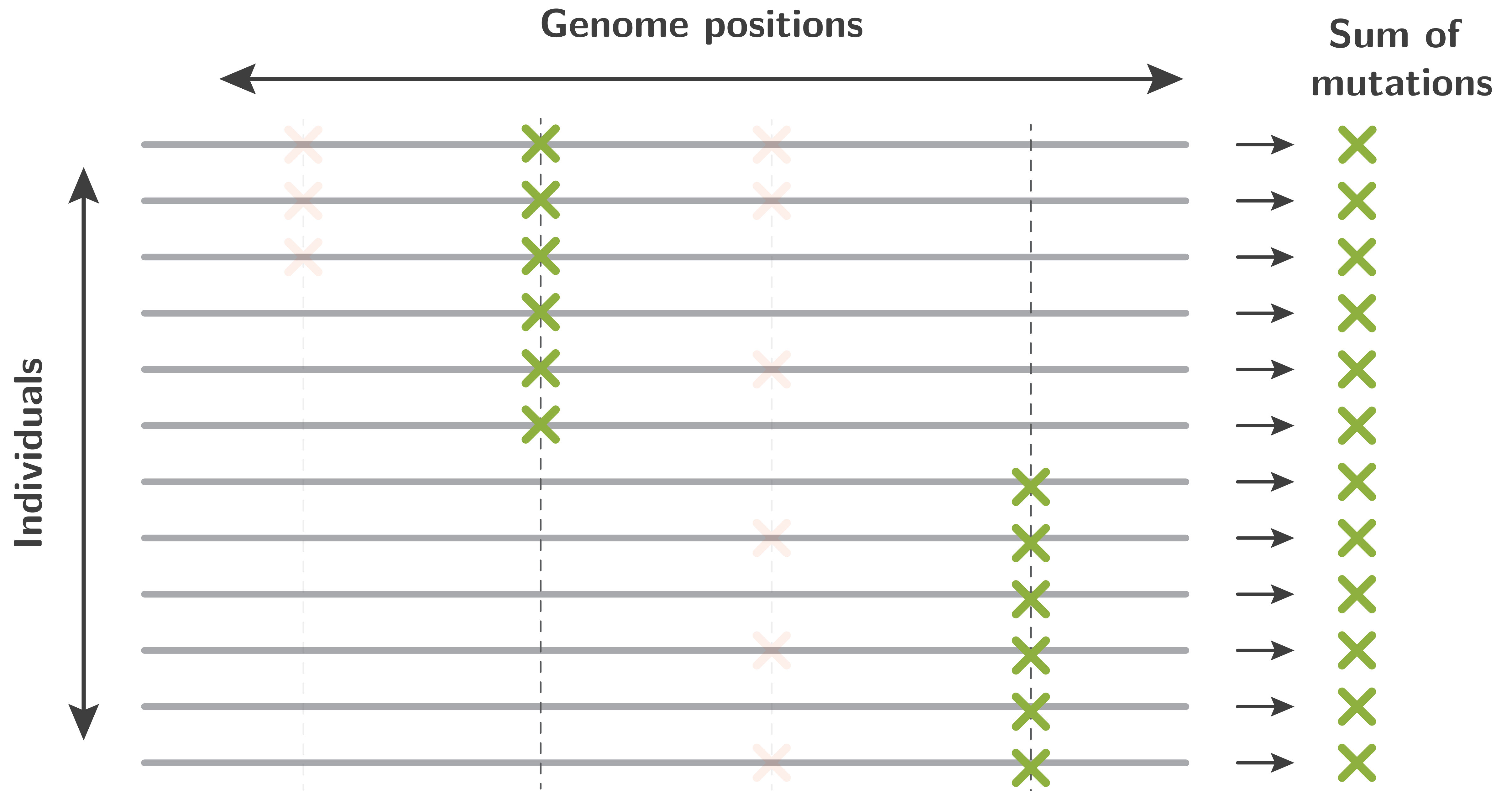
**How to detect and quantify
non-independence?**



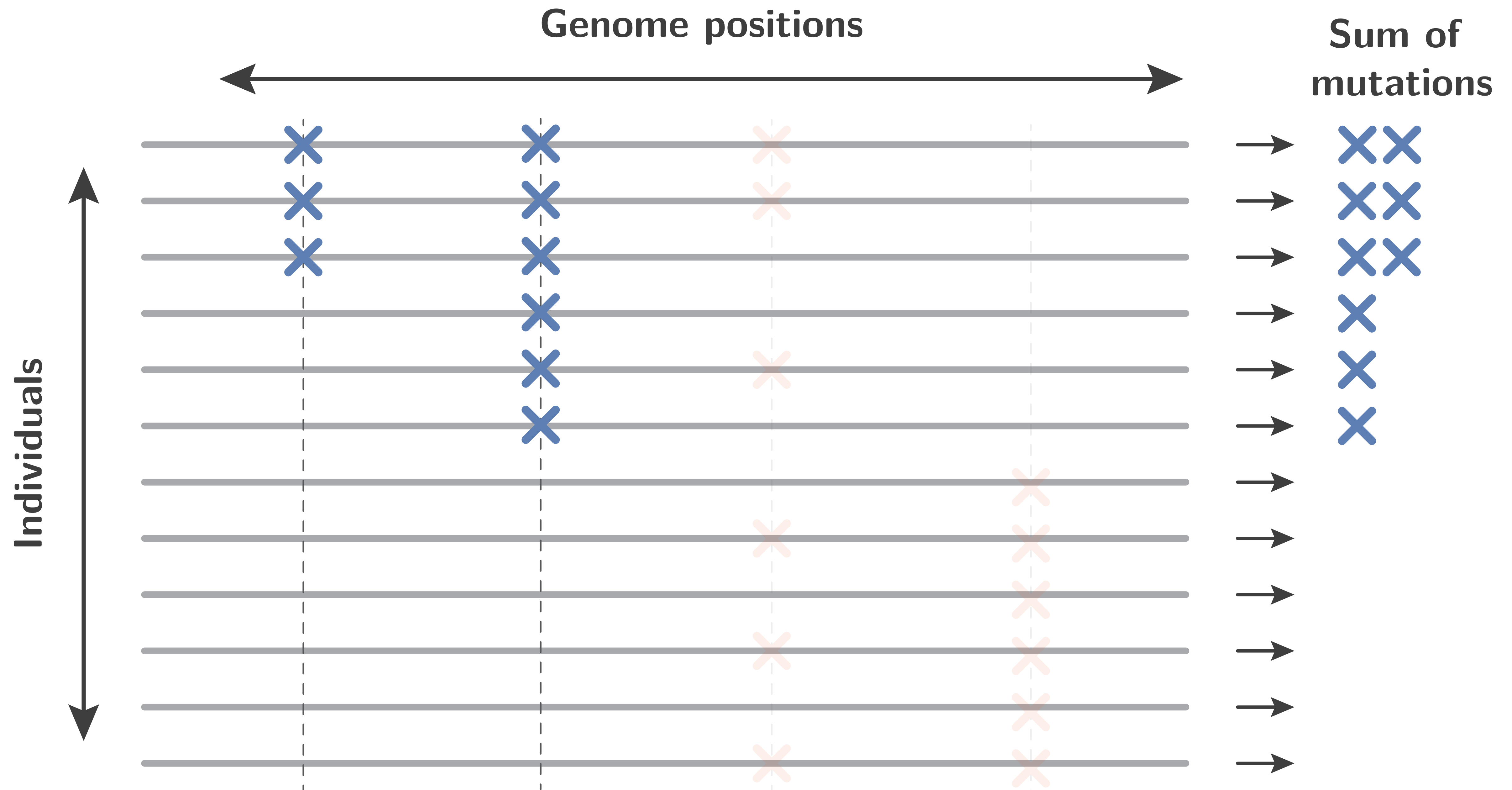
Polymorphism dataset.



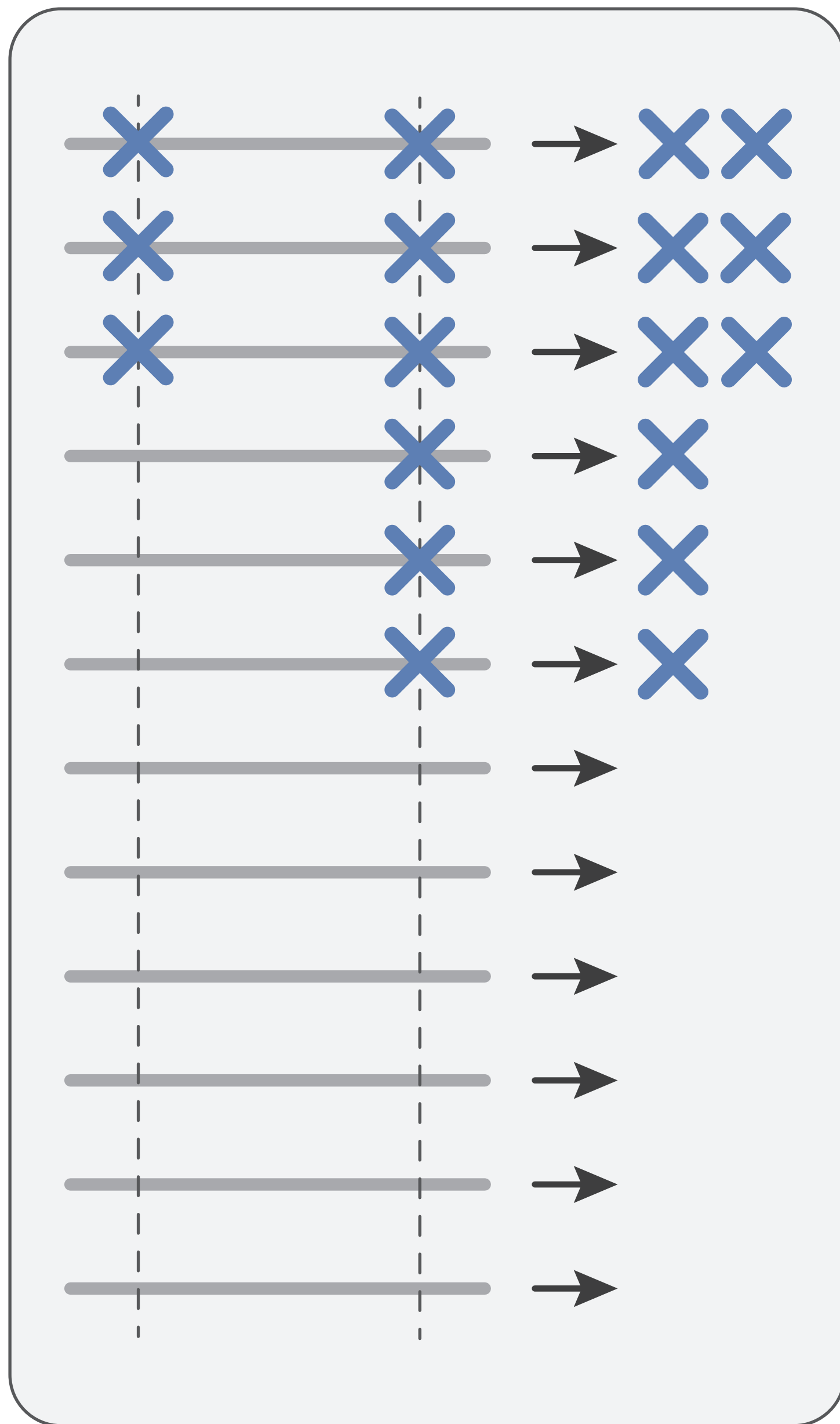
Independent mutations.



Repulsive mutations, synergistic epistasis.

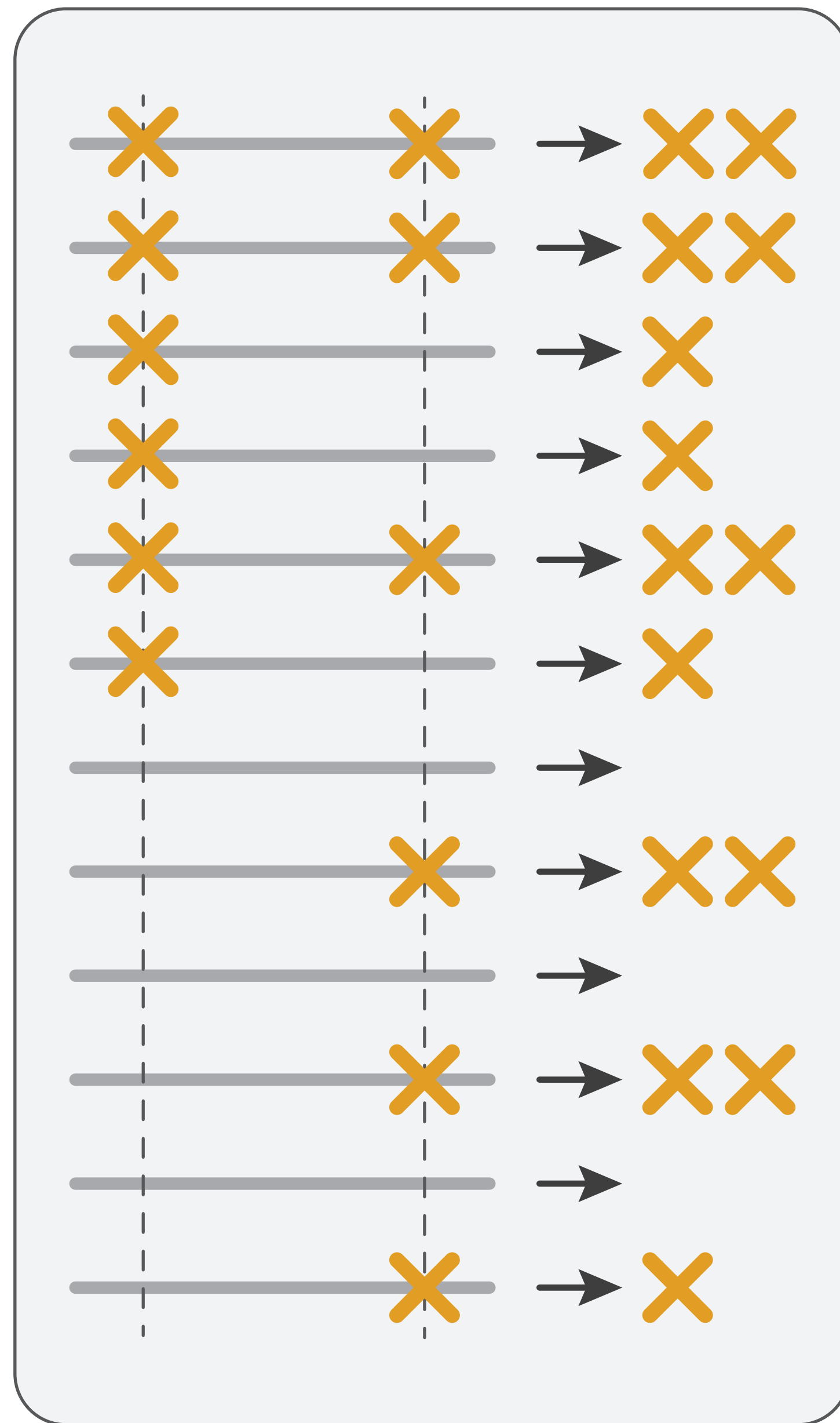


Associative mutations, antagonistic epistasis.



Association

Antagonistic epistasis



Independence

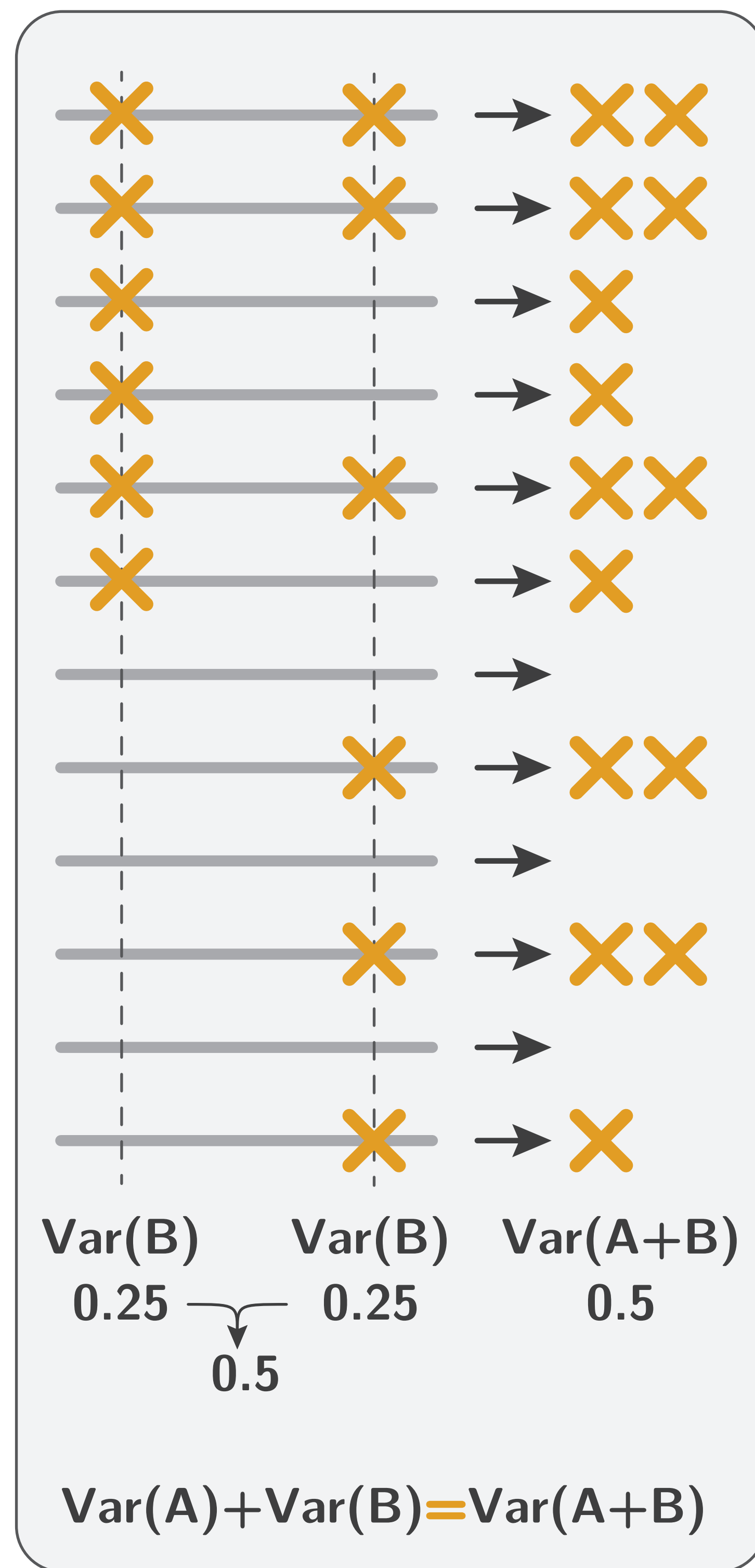


Repulsion

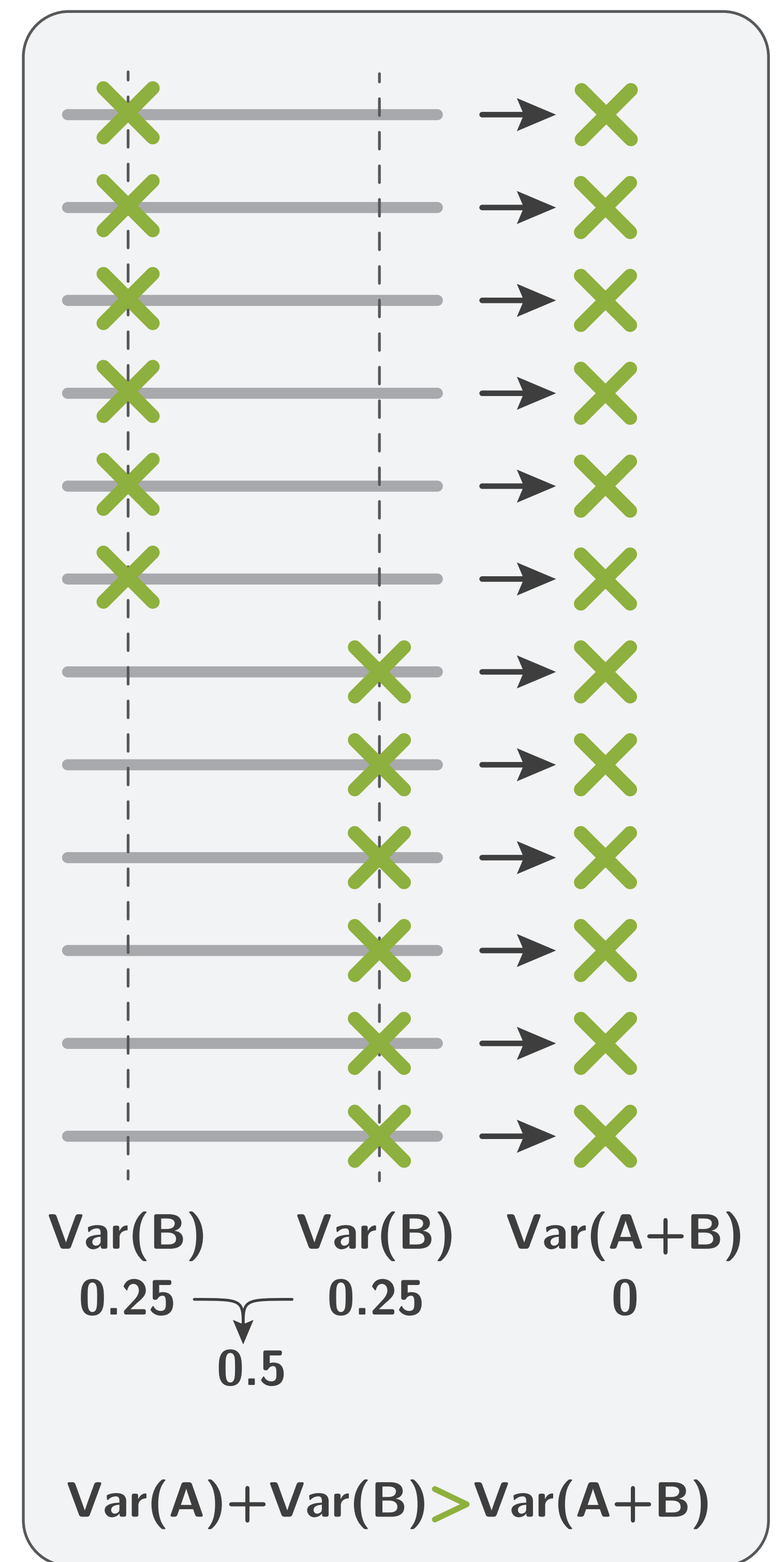
Synergistic epistasis



Association
Antagonistic epistasis



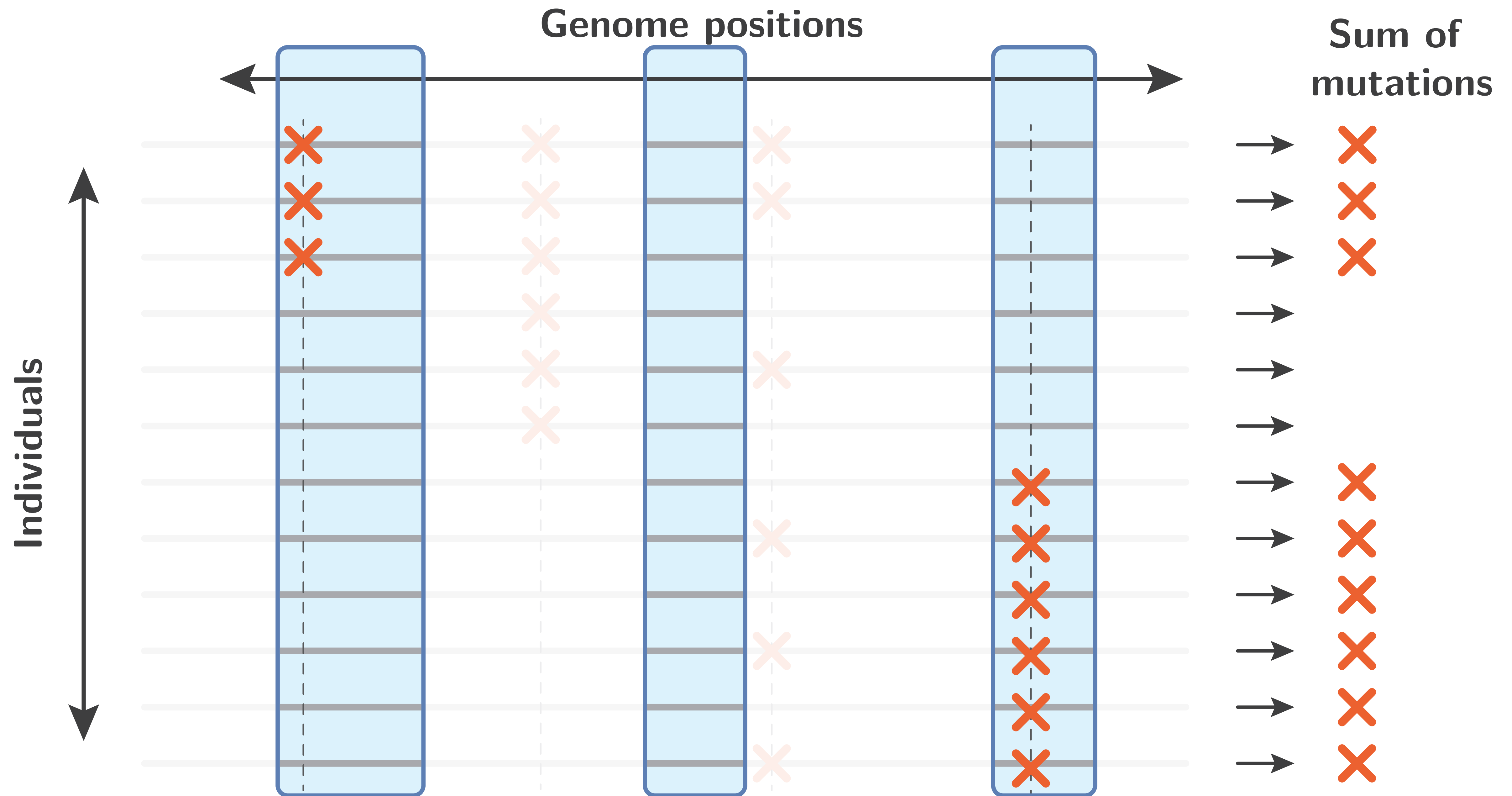
Independence



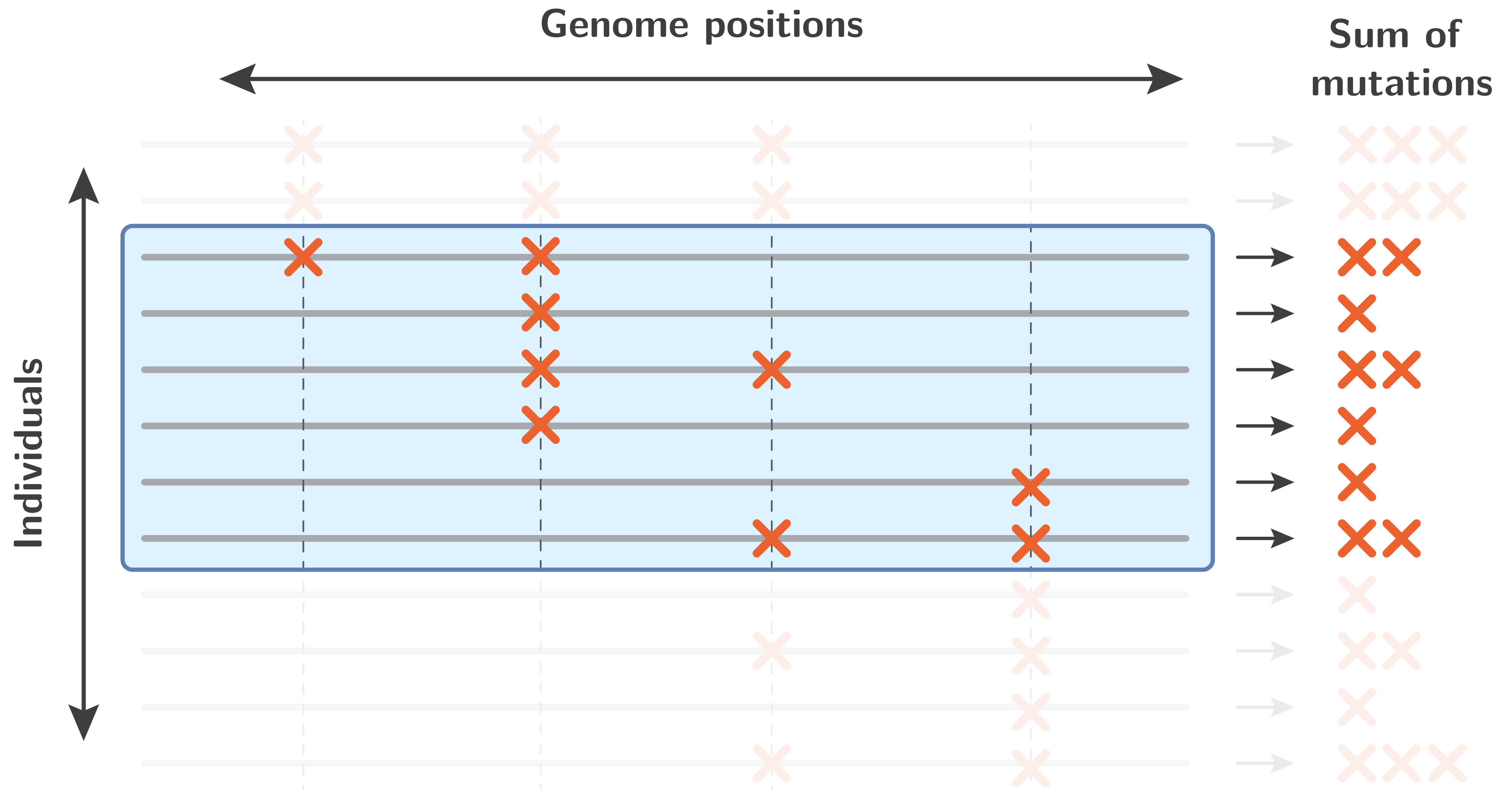
Repulsion
Synergistic epistasis

In which part of the genome ?

In which population ?



Filtering out polymorphism.



Filtering out individuals.

Let's do this !