

Inversions

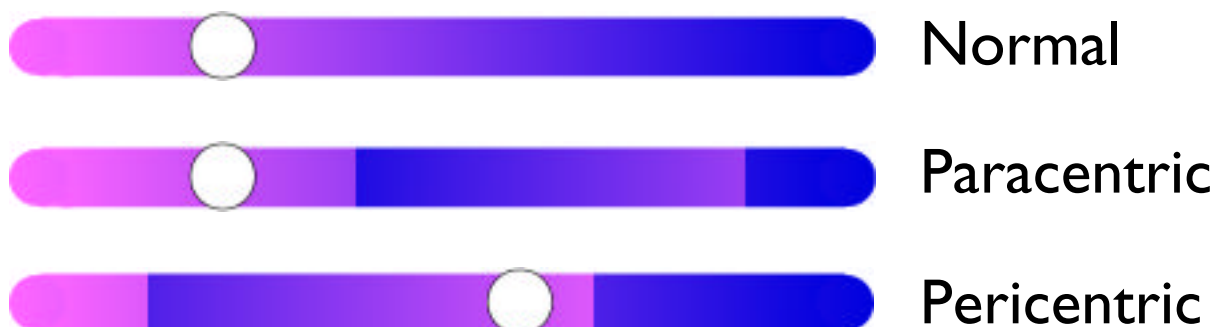
- ◆ From two internal breaks

- ◆ **Phenotypes?**

- ◇ Often no overt phenotype

- ◇ Initial detection often on genetic grounds

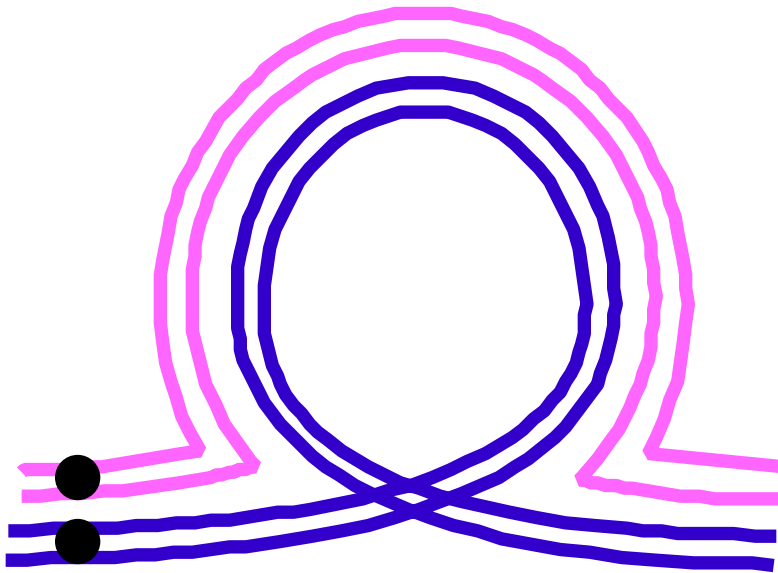
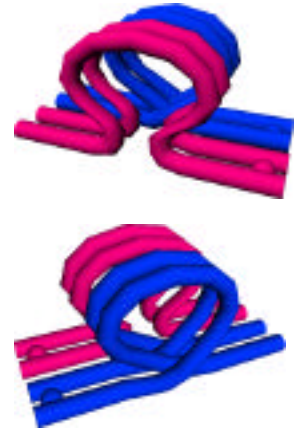
Paracentric and pericentric inversions



Meiosis and crossing over in inversion heterozygotes

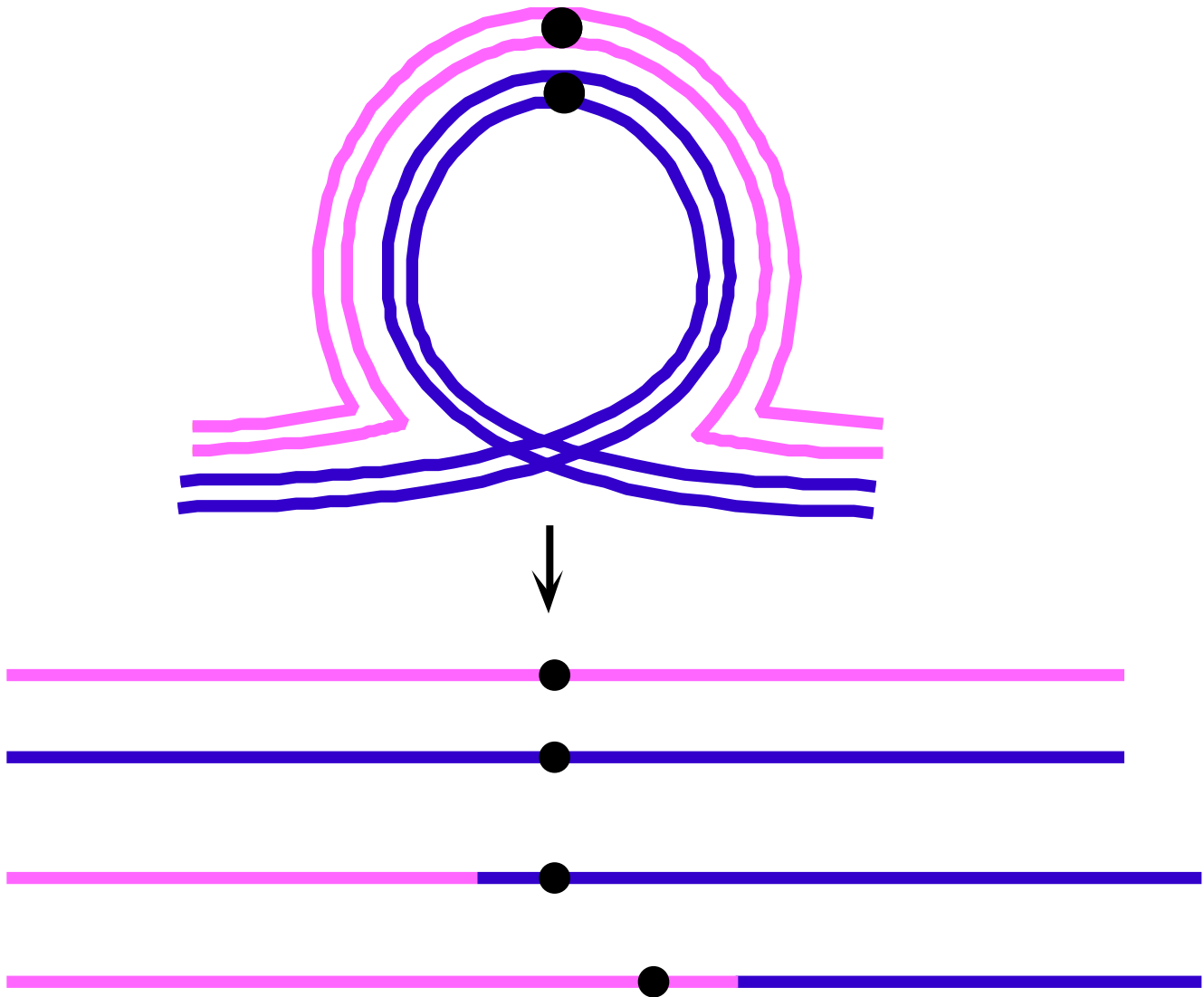
◆ Markers on the homologs are no longer co-linear...

◇ Paracentric inversions



○ Consequences?

◇ **Pericentric inversions**



- Consequences?

Translocations

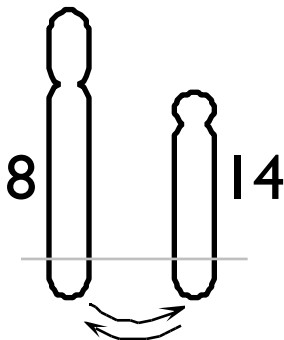
- ◆ Often reciprocal
- ◆ Double heterozygotes can be viable

Phenotypes

- can cause some serious human disorders
- ◆ Associated with specific forms of **cancer**

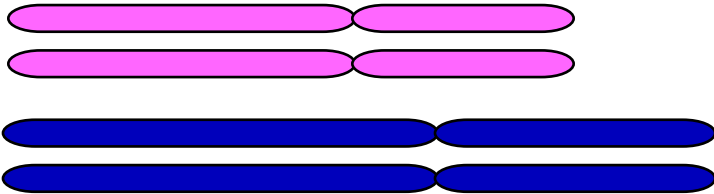
e.g., Burkitt lymphoma

- ◇ one partner: chromosome 8
- ◇ other partner: chromosome 14, 22, or 2

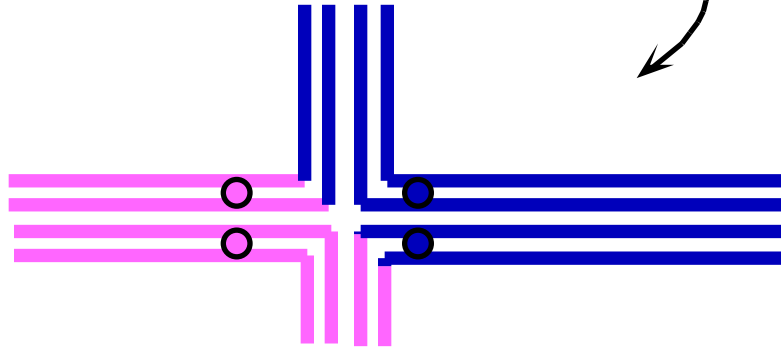
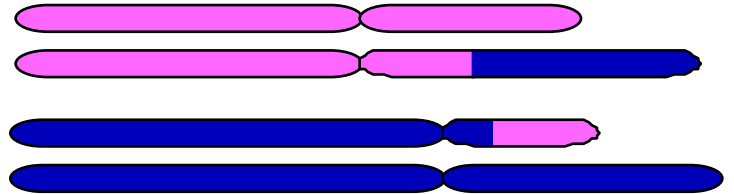


Pairing and meiosis in double heterozygotes

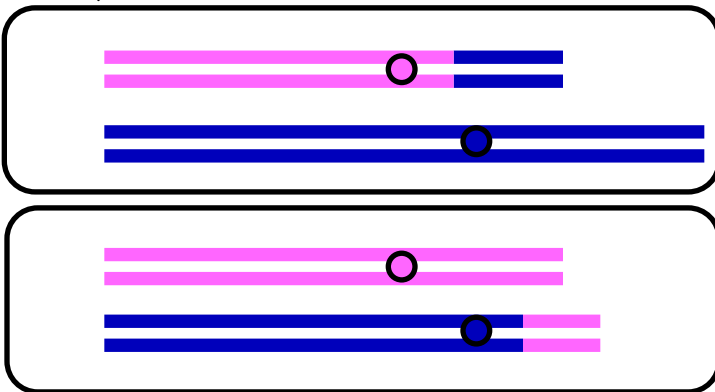
Normal



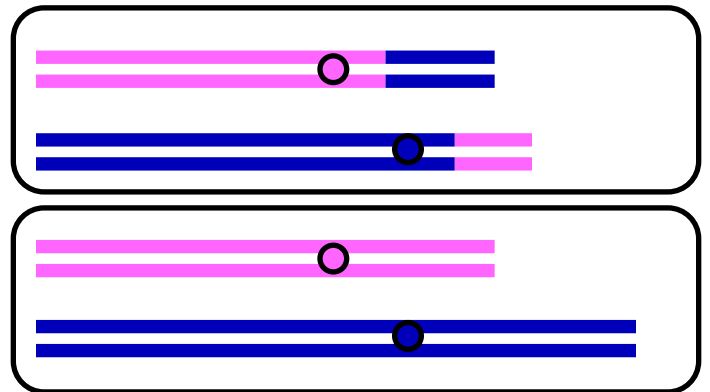
Translocation (reciprocal)



Adjacent



Alternate



or

Consequences

- ◆ Semisterility