Hardy-Weinberg

- lokalized population
- infinite size
- no selection / random mating ..

- Given allele frequencies $f(G_1) = p$; $f(G_2) = q$

- Resulting genotype frequencies: $f(G_1 G_1) = p^2$
  $$f(G_1 G_2) = 2pq$$
  $$f(G_2 G_2) = q^2$$

- From parents to offspring

$G_1 G_1$ - genotype as parent with frequency $f(G_1 G_1) = p^2$

	G_1	G_2
G_1	$f(G_1 G_1) = p^2 \cdot p$ $= p^3$	$f(G_1 G_2) = p^2 \cdot q$ $f(G_1 G_1) = p^2 q$

$G_1 G_2$ as parent with $f(G_1 G_2) = 2pq$

	G_1	G_2
G_1	$f(G_1 G_1) = pq \cdot p$	$f(G_1 G_2) = pq \cdot q$
G_2	$f(G_2 G_1) = pq \cdot p$	$f(G_2 G_2) = pq \cdot q$

$G_2 G_2$ ...

offspring the genotype frequencies remain constant