* **Genetics**
	+ Alleles: different version of the same gene
	+ Phenotype: what is visible in population
	+ Genotype: all genes an organism has
* ***Do advantageous traits arise out of need?***
	+ No, new alleles & physical traits that appear because of them are random!
* ***What does natural selection act upon?***
	+ Selection is a phenomenon if individuals
	+ Survival & reproduction is a package deal
* **Patterns of natural selection**
	+ Directional Selection: selection of extreme traits
	+ Stabilizing Selection: selection of no extremes, traits are “in the middle”
	+ Disruptive selection: the extreme traits (both) are more useful than middle traits
* **Mechanisms underlying evolution**
	+ Mutation
	+ Gene flow
		- Exchange of alleles among populations
		- conjugation
	+ Natural selection
	+ Genetic drift
	+ Sexual selection
* **Founder Effect**
	+ A portion of the population breaks away & begins a new population that is genetically different because founders were not genetically representative of the population
	+ Bottleneck effect
		- A portion of the population dies off & the survivors are not representative of rest of population
* **Sexual Selection**
	+ Seen in natural world when males produce ornamentation to attract females
	+ Signal of good genes
		- Ex: peacocks, deer, cardinals
	+ Can give things to females
* **Convergent evolution**
	+ Distantly related (or not related) can evolve similar structures when they survive under similar environmental pressures