

### Genetic and Evolution

Theory of evolution

mid 1800's, how the mind works, nonmaterial mind

Charles Darwin

natural selection and fitness

Natural selection is a theory developed through Darwin's observations of the fitness of species characteristics to its environment

mind = produce of the nervous system

evolution is a slow process

fitness = organisms that are going to survive

natural selection ability for a species to adapt to their environment, find food and water, and mate in order to stay alive long enough to pass on genetic traits favorable to that setting

### First Brain Cell

first brain cell: 700 mya

cell moving towards heat or light

starts getting collection of brain cells to work together and produce basic brain function

first brain cell: 250 mya

first primate brain: 7 mya

### Evolutionary Adaptation

|                     |                         |                          |                        |
|---------------------|-------------------------|--------------------------|------------------------|
| survival adaptation | reproductive adaptation | intra-sexual competition | inter-sexual selection |
|---------------------|-------------------------|--------------------------|------------------------|

### Evolutionary Adaptation (cont)

|                          |  |  |  |
|--------------------------|--|--|--|
| obtain food for yourself | passing on genes to the next generations | passing on genes with a greater frequency due to their association with greater mating success | in this process if member of one sex are attracted to certain qualities in greater numbers, simply because their possessor mate more often |
|--------------------------|--|--|--|

|                 |   |   |                              |
|-----------------|---|---|------------------------------|
| physical traits | some genes less useful, but are needed for reproduction | males competing with other males to win female over | female can select the winner |
|-----------------|---|---|------------------------------|

|      |   |                   |                                       |
|------|---|-------------------|---------------------------------------|
| camo | make an animal more desirable to the opposite sex | pressure on males | which one has the better genes/traits |
|------|---|-------------------|---------------------------------------|

example: peacock lowers their rate of survival but attract female

not always a physical deal

example: satin bird

