Factors Influencing Antler Size

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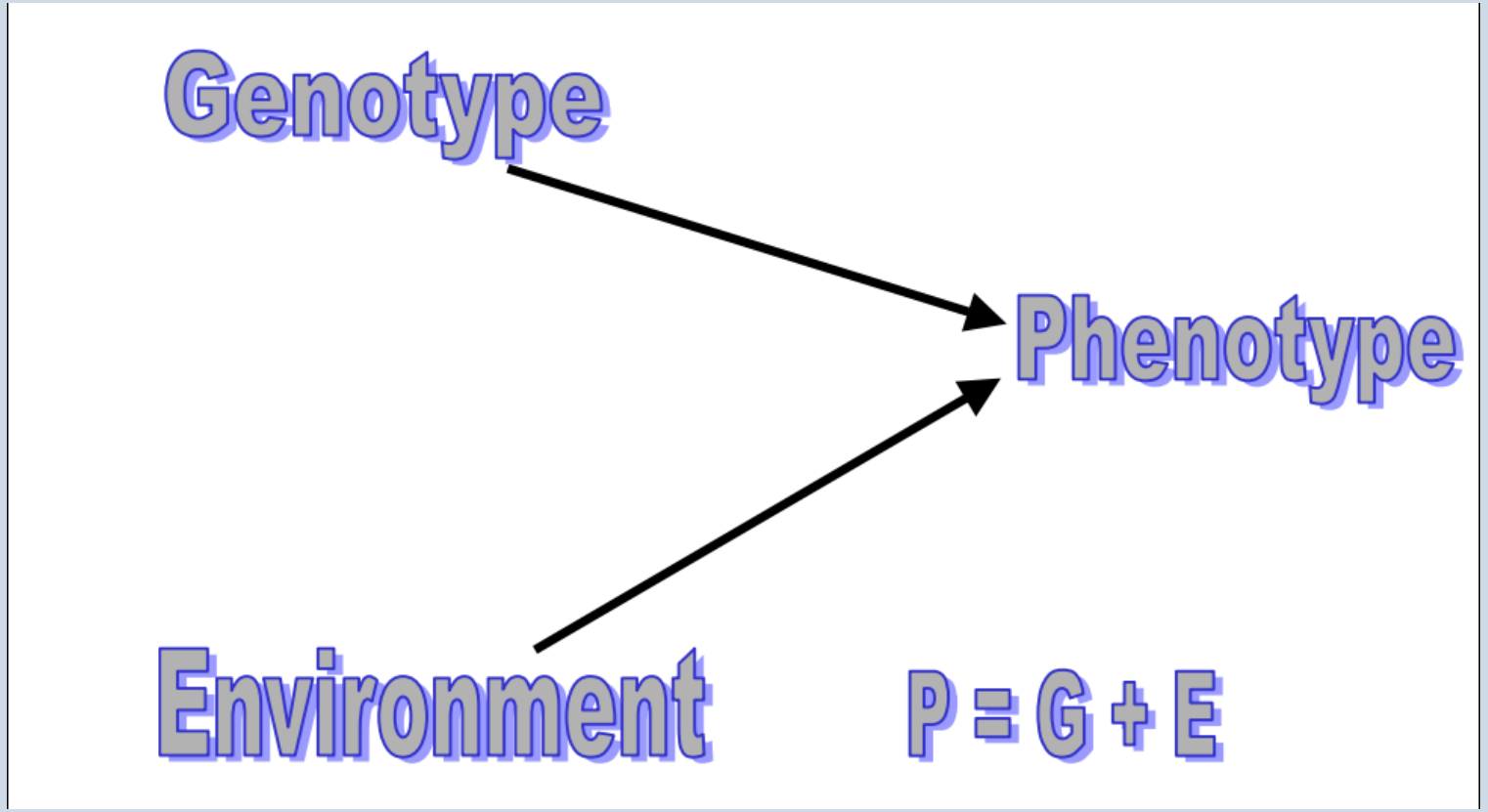
What do we know?



- Genotype = Genetics
- Environment
  - Current Conditions
  - Previous Conditions

What do we know?

- Genotype is pretty straight-forward.
  - 50% of genetic material from each parent

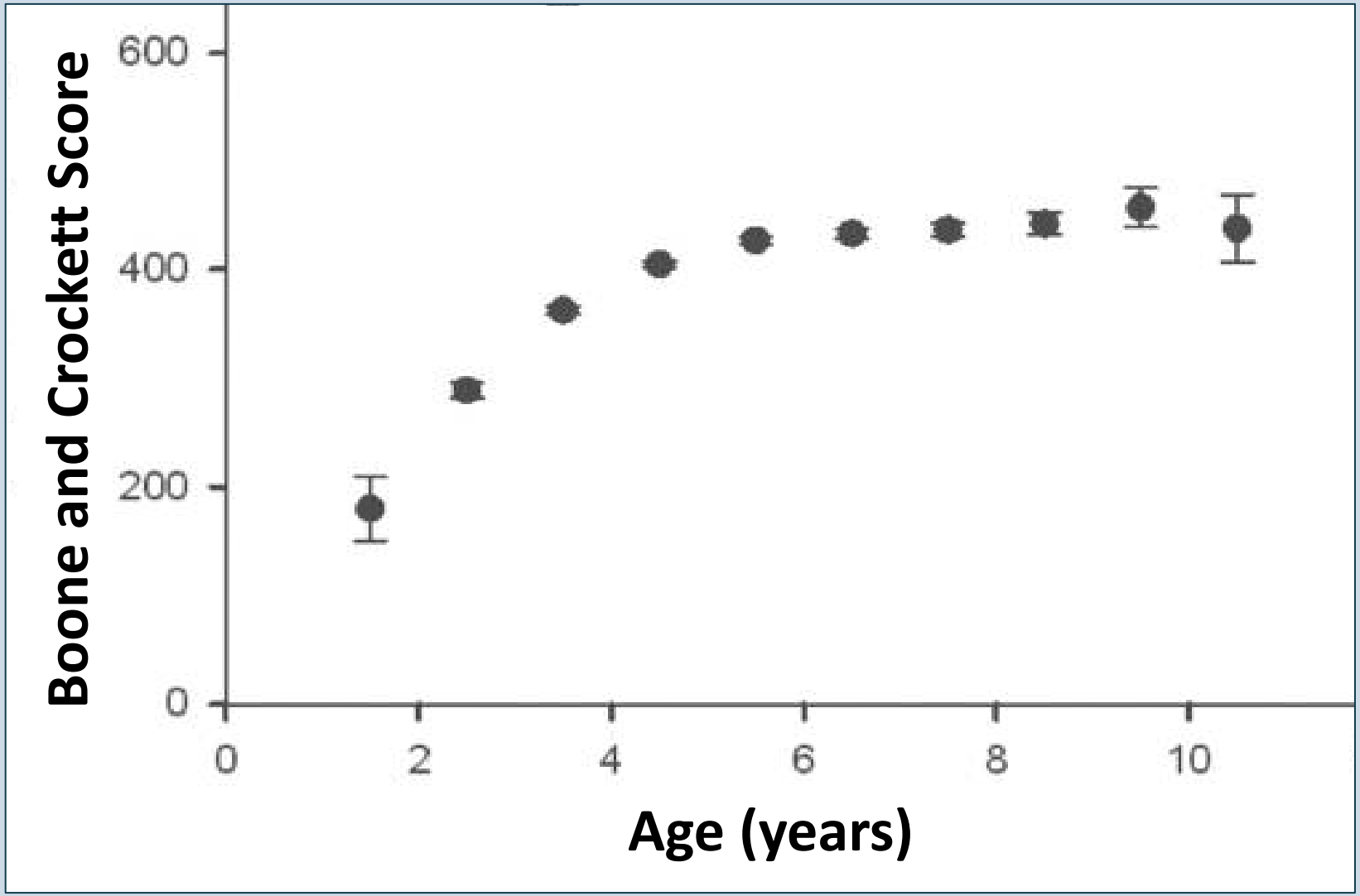
- Environment is much more nuanced:
  - Past or current illness
  - Current growing conditions
  - Maternal condition.
  - Past or current Injuries
  - Moisture input from winter
  - Age

Illness and Injury

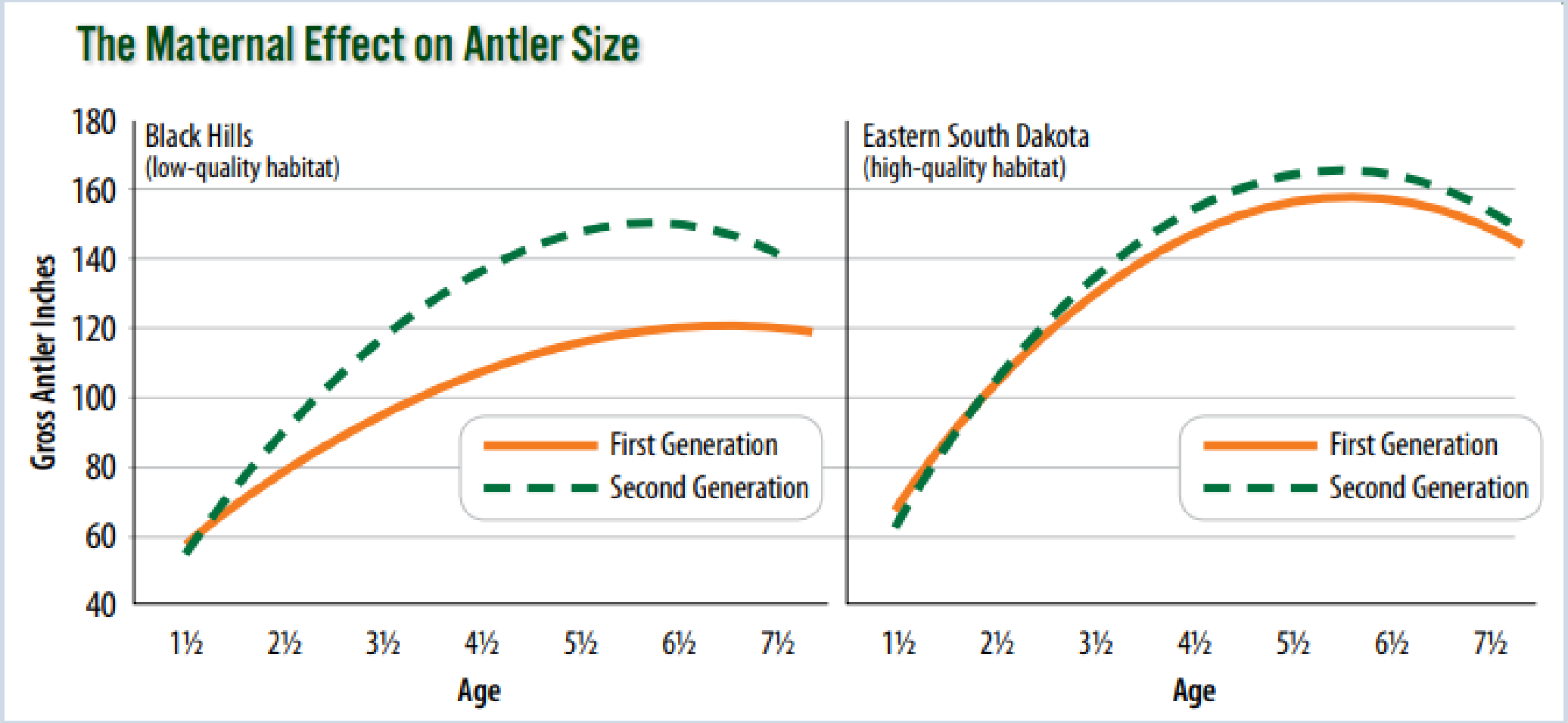
- Past EHD infection
- Broken limbs
- Genital mutilation
- Current illness

Forage Quality and Availability

Age



Maternal Condition



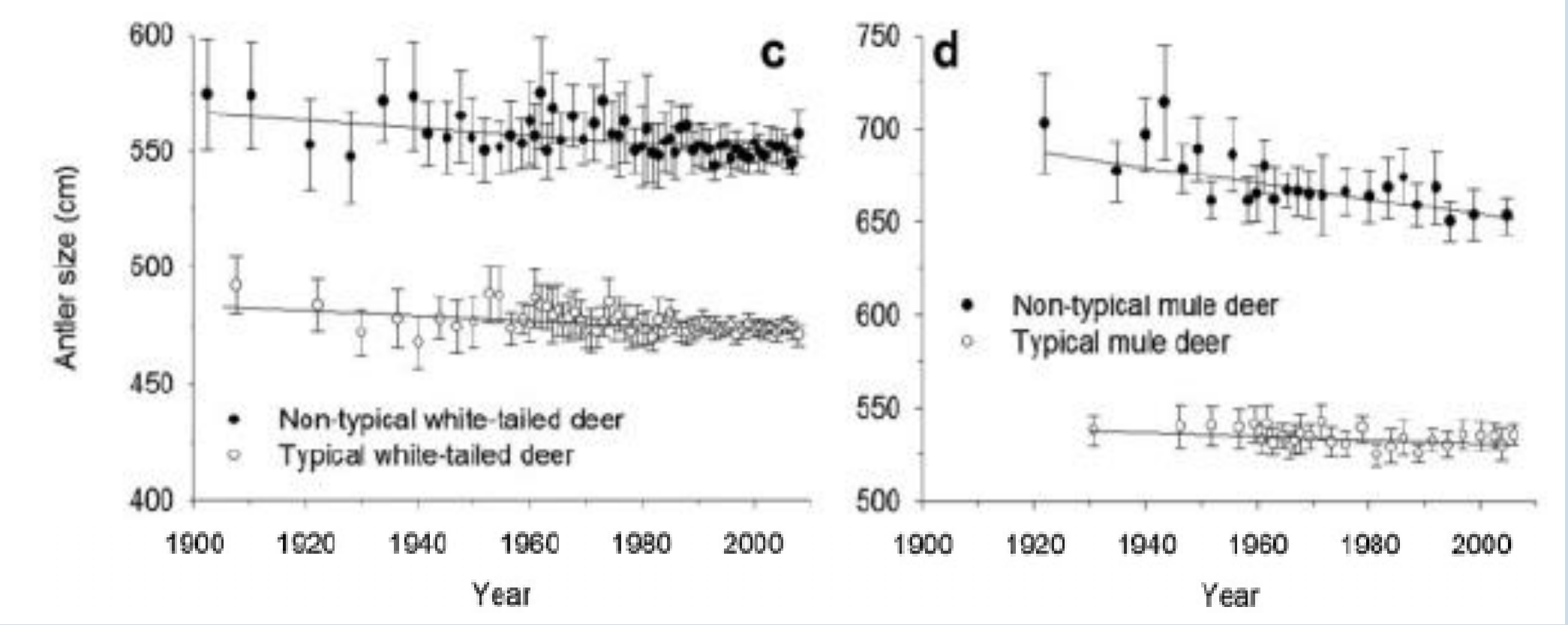
Genetics

Genetics

- Clearly genetics plays a role in antler development.
- Most evidence suggests that other factors are more influential in the natural environment.
  - We cannot manipulate/imbreed genetics to create monsters
  - Half the genetic material comes from females.
  - Likely 75% of the harvest is comprised of 1.5 or 2.5 yr olds
- Most research concludes that decreases in age are responsible for decreases in size as opposed to poorer genetics.

Antler size of B&C entries through time

- From 1950 – 2008 there was a 3.6% predicted decrease in size for non-typical mule deer and a 1% decrease for typicals



What does that mean?

- Antler size is clearly the result of many interacting factors
- Some are inherited while others are a product of the current environment
- Current environmental conditions and nutritional plane likely are most influential, followed by maternal condition, and then genetics