

His nature, her nurture-

or

**what good are conceptual critiques for
tackling practical concerns about the
development of gendered individuals?**

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<http://bit.ly/ishpssb15>

for sources and other follow up



nature-nurture?

NO { Moving the Sciences of Variation
and Heredity Beyond the Gaps

conceptual critique =

- *five* nature-nurture sciences
- gaps between them
- ways conflated or seen to reinforce one another

take home messages:

1. conceptual critique clears space for focusing on the development of gendered individuals
2. this counters a persistent essentialism about gender
3. implications well beyond issues raised by feminist scholars

Deep conceptual assumption	Dawkins, atheist	Religious believers
1. There is an agent within any apparent agent—the living being does not develop without being directed by something else	Selfish gene	Soul
2. There must be some standard external to organisms in order for them to know what they should do	Ever-acting natural selection	God
1+2 = The directing agent within is mirrored by the directions that X should follow	X = organisms as survival machines	X = people believing in the religion
3. It is OK to base your account of the world on unobservables Y if it is hard for you personally to make sense of the world if the unobservable did not exist	Y = fitness associated with alleles	Y = God's will

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Simulation

- 2 genital forms; 2 gender norms.
- Spread of initial positions of infant. Attraction to closest norm + to genitally concordant norm.
- Reinforcement by adults of attraction *either* to closest norm *or* to genitally concordant norm.

Vary proportion of adults who reinforce the attraction to the closest norm:

clustering of young adults around genitally concordant norms

-> wider spread

-> more clusters



“practical concerns”

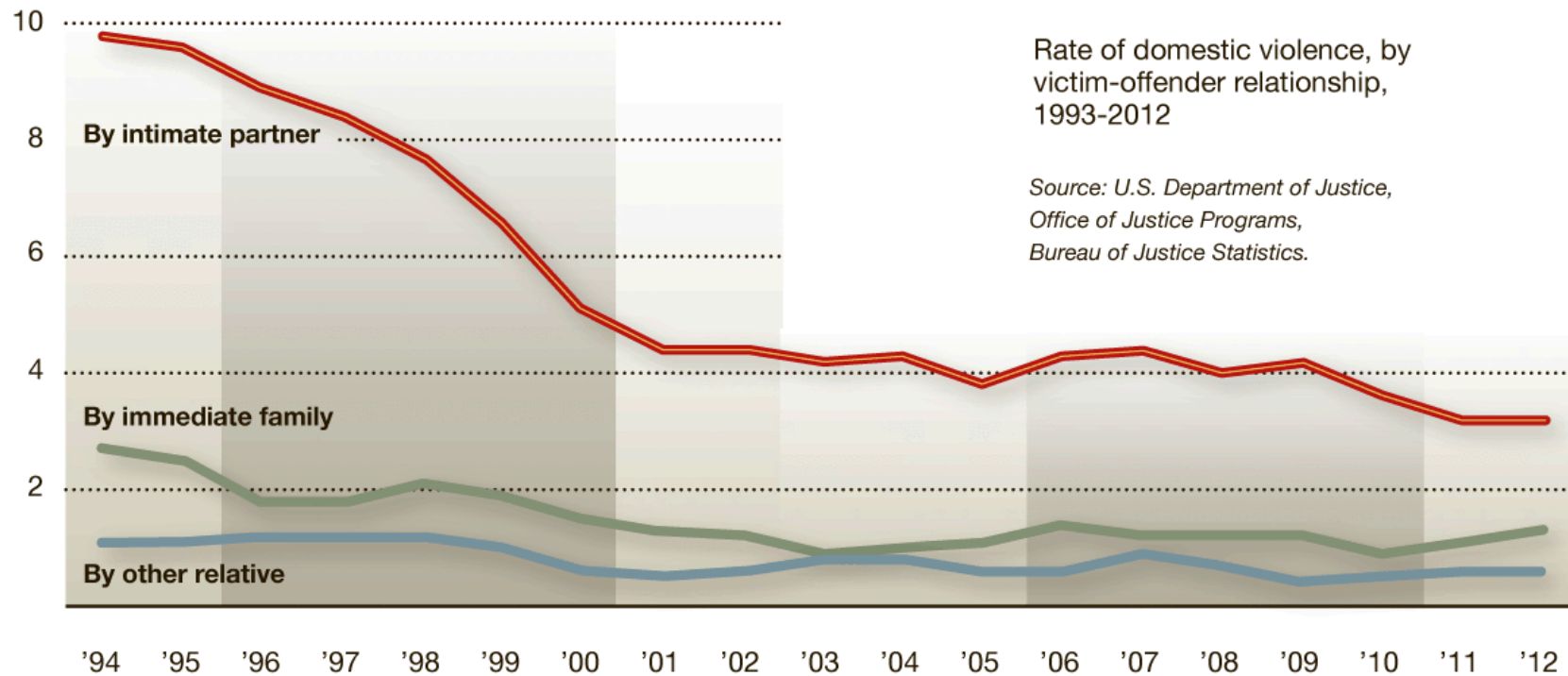
- * How difficult is it to change the typical distributions of a trait, e.g. aggression, substance abuse, suicide attempts, modes of sexual arousal as they differ among males and females?
- * When change has happened, in what ways has it come about?

Rate per 1,000 people age 12 or older

Curtailing Cruelty

Rate of domestic violence, by victim-offender relationship, 1993-2012

Source: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.



thesis of the paper

help that conceptual critiques provide
for tackling practical concerns

=

clearing space for focusing on the
development of gendered individuals

Nature-Nurture Sciences

**partition variation
in observable traits**

**fixity vs flexibility of
development of
individual**

Nature-Nurture Sciences

**partition variation
in observable traits**

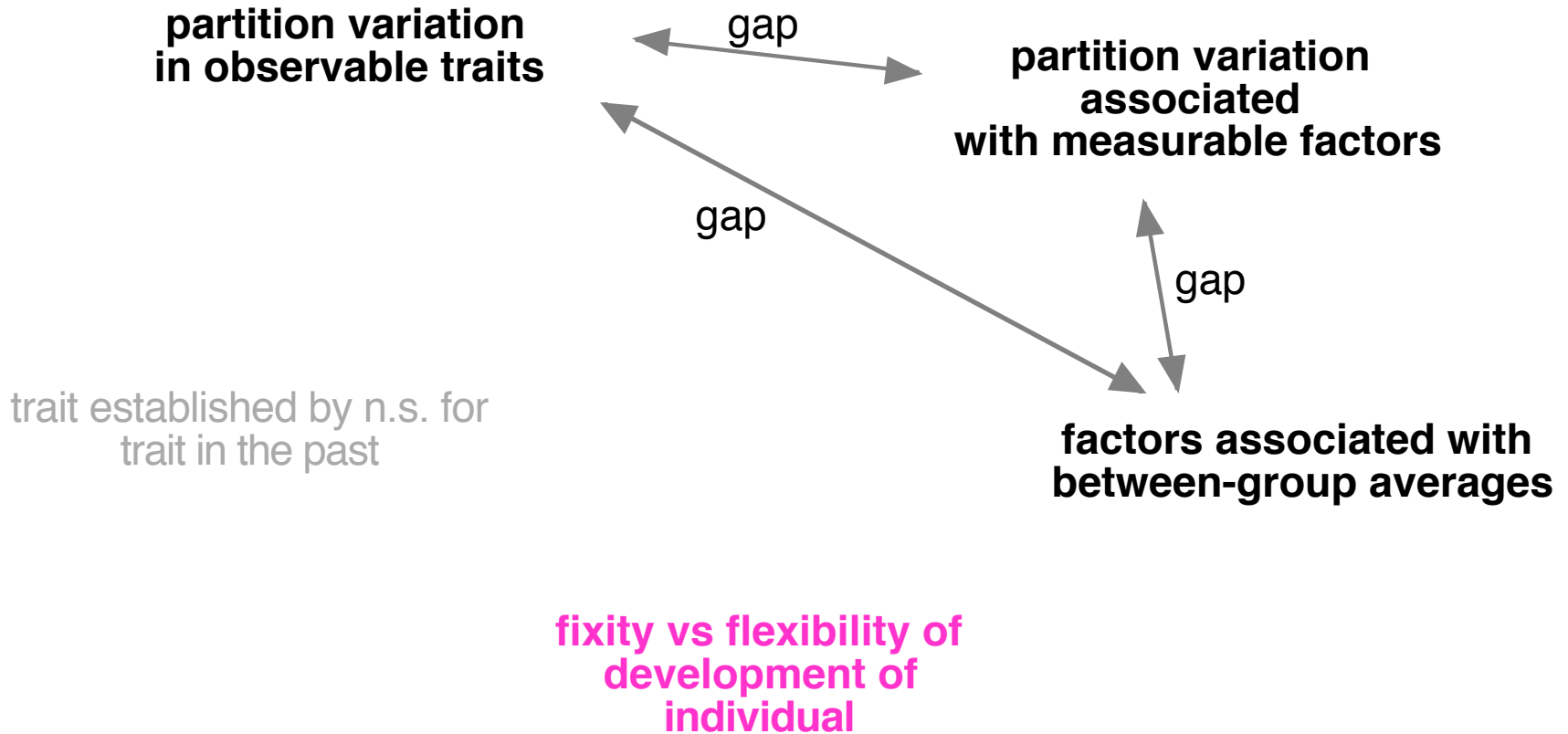
**partition variation
associated
with measurable factors**

**trait established by n.s.
for trait in the past**

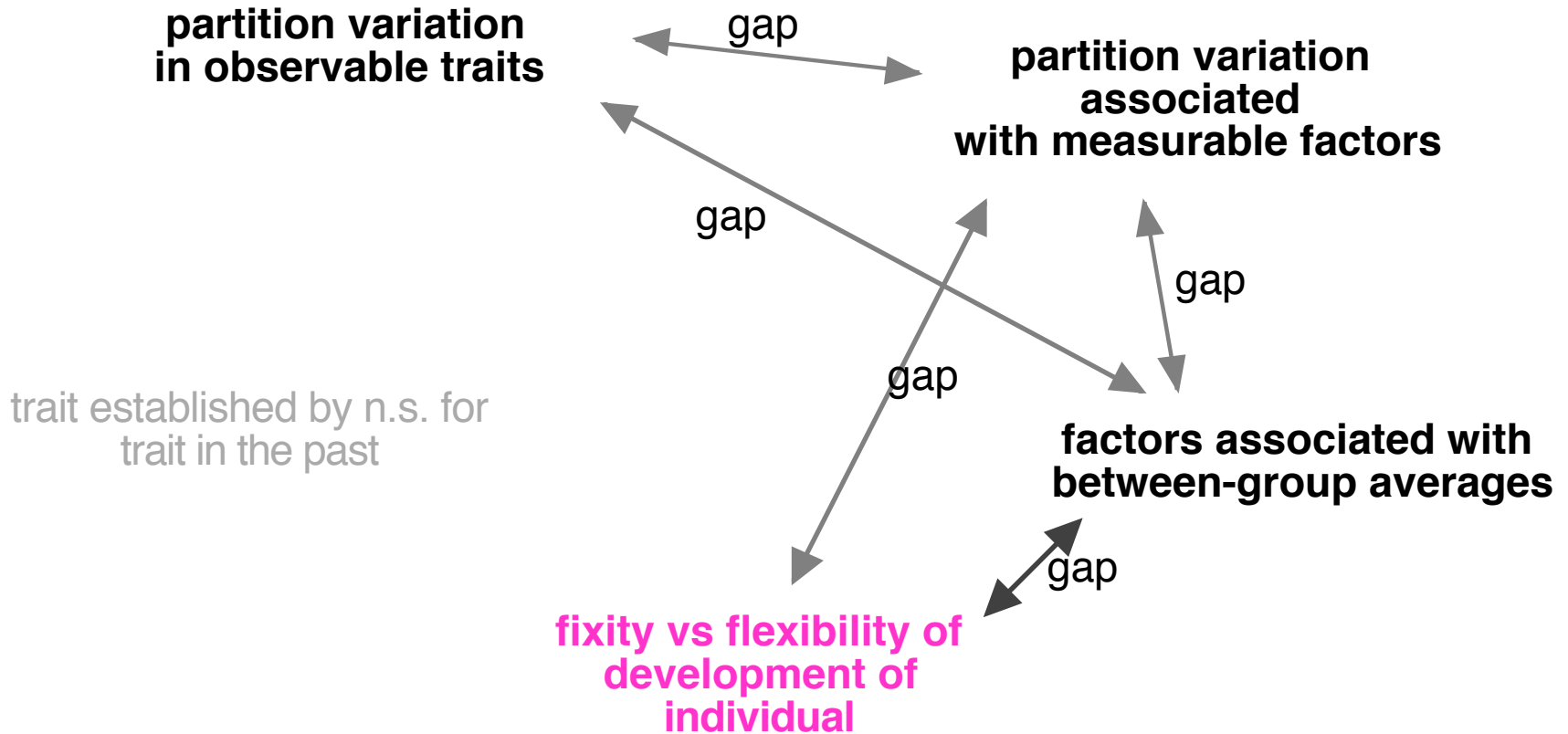
**factors associated with
between-group averages**

**fixity vs flexibility of
development of
individual**

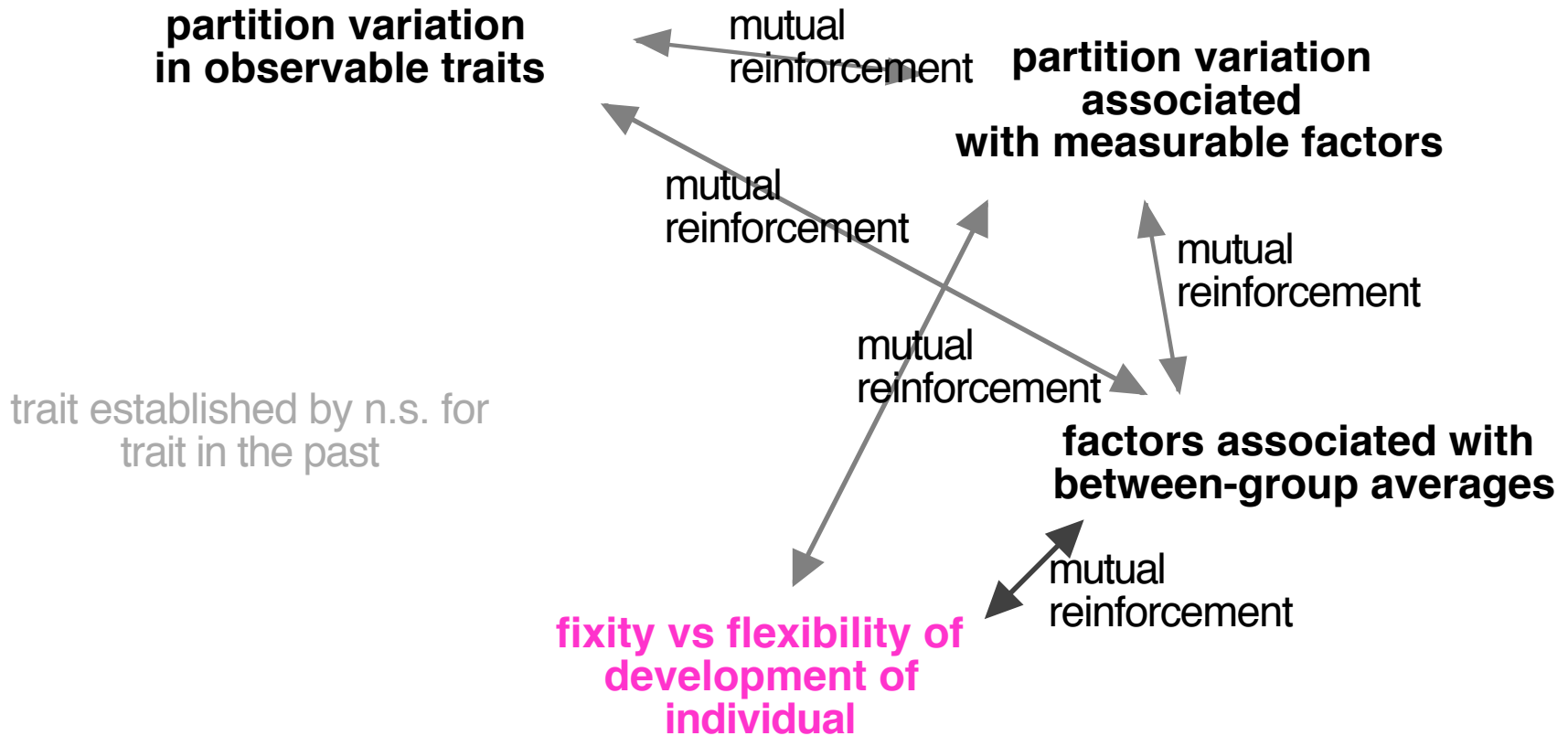
Nature-Nurture Sciences

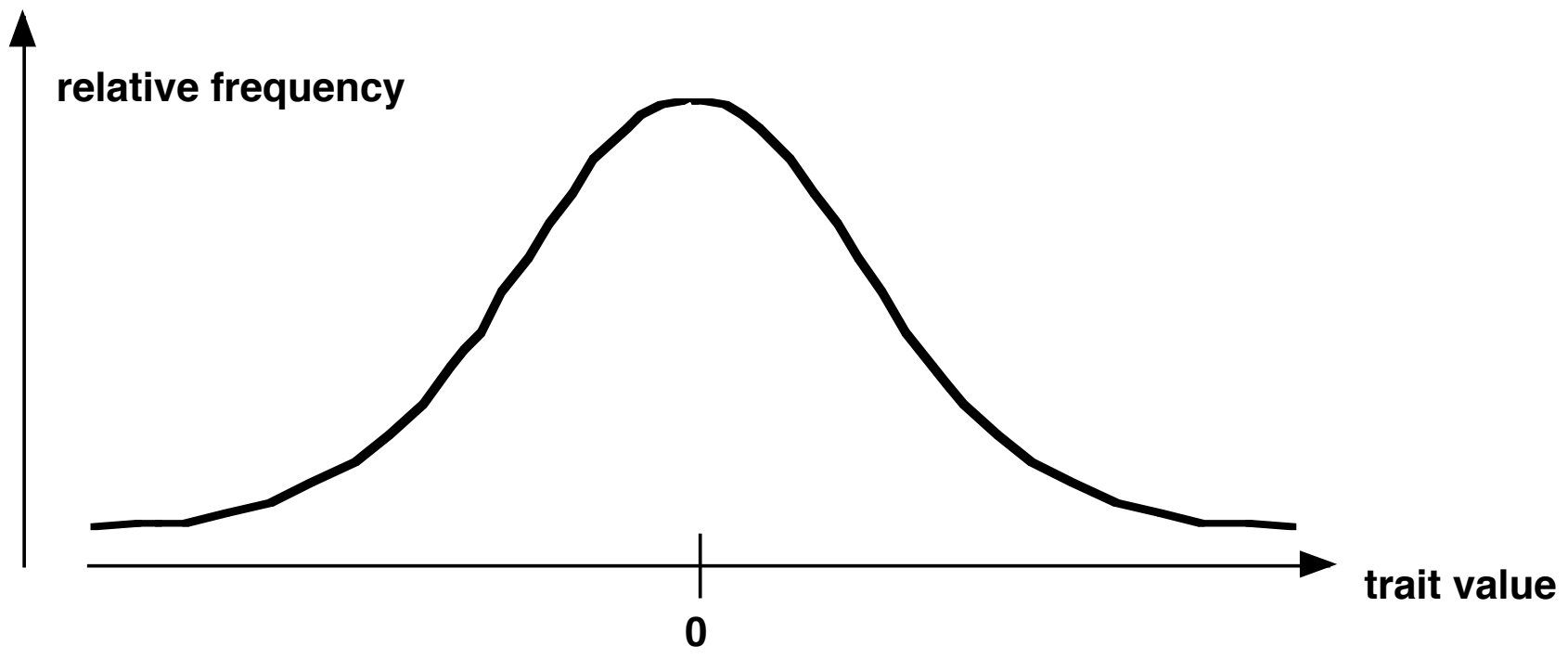


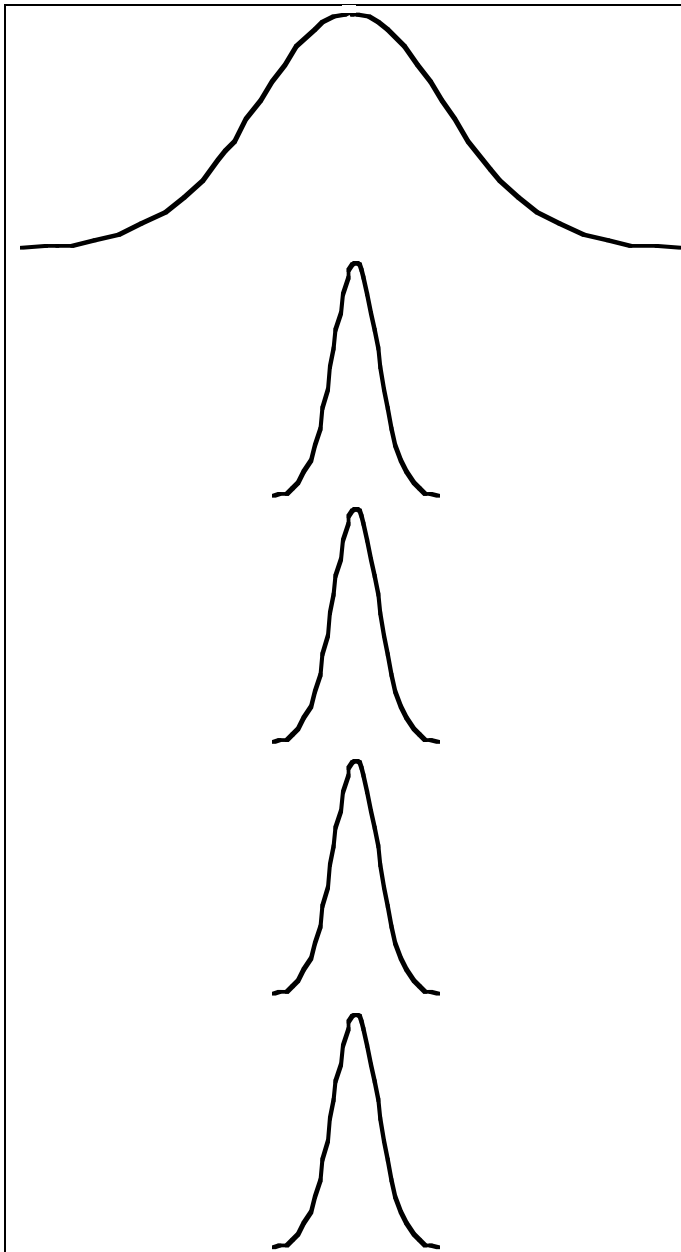
Nature-Nurture Sciences



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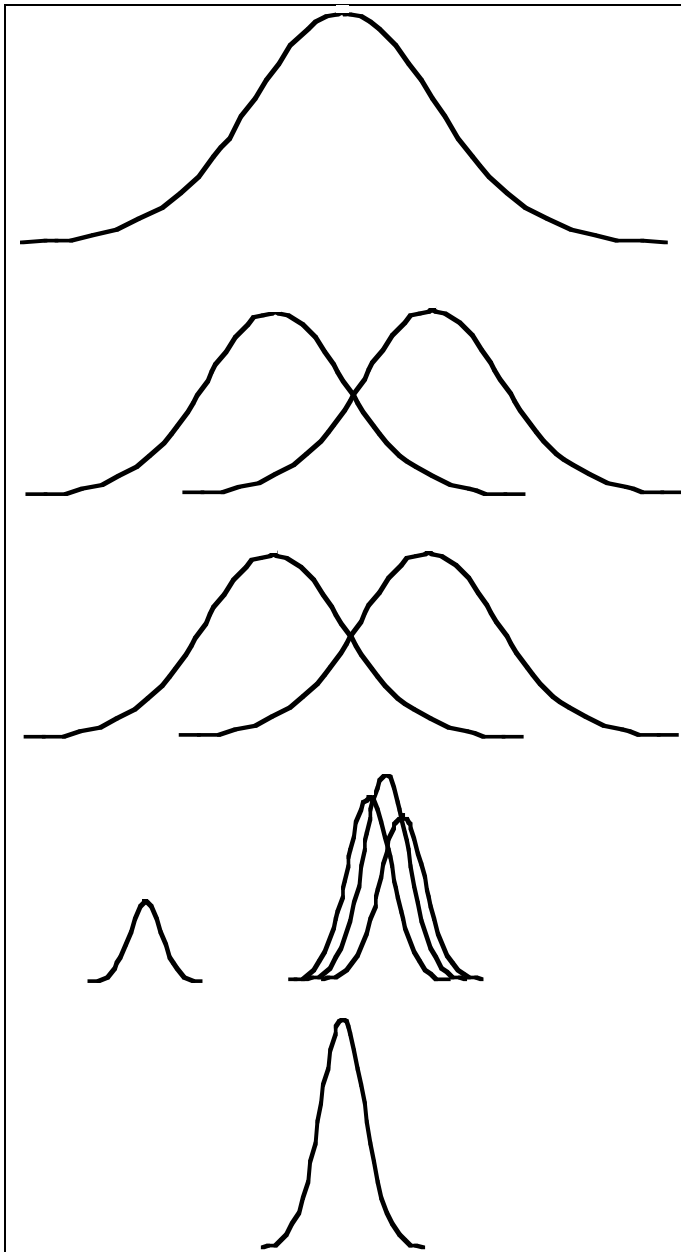
Total variation =

Variation among means
for
varieties/"genotypes"

Variation among means
for
locations/environments

Variation among means
for varieties-location
combinations

Variation among
residual contributions



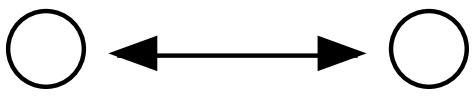
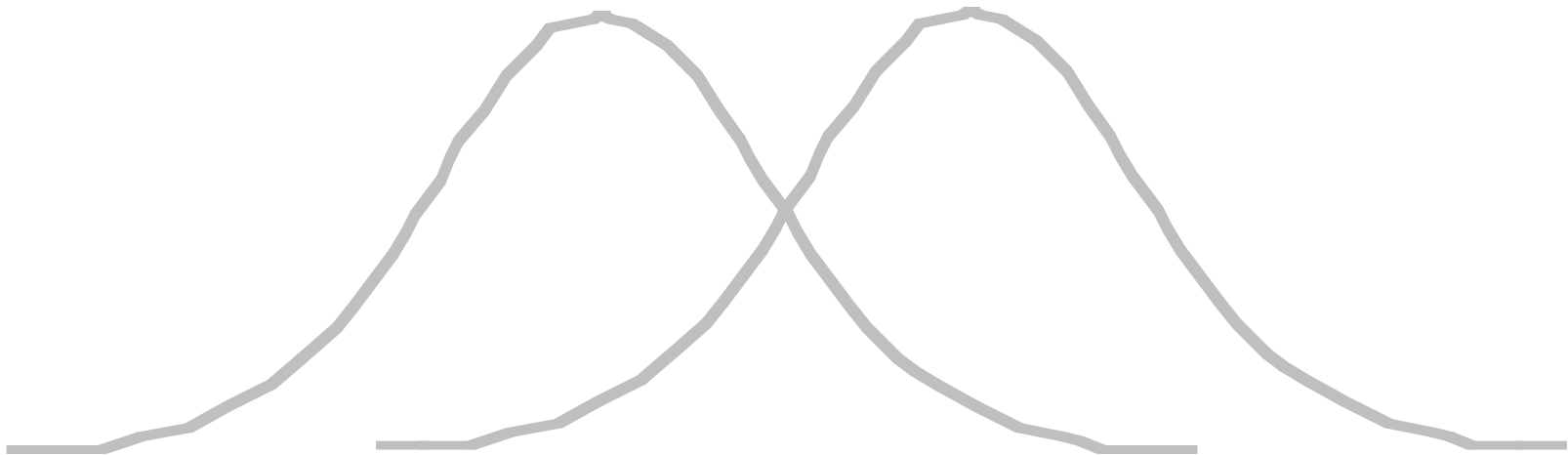
Trait value =
sum of contributions
from

coefficient1 * value of
genetic factor

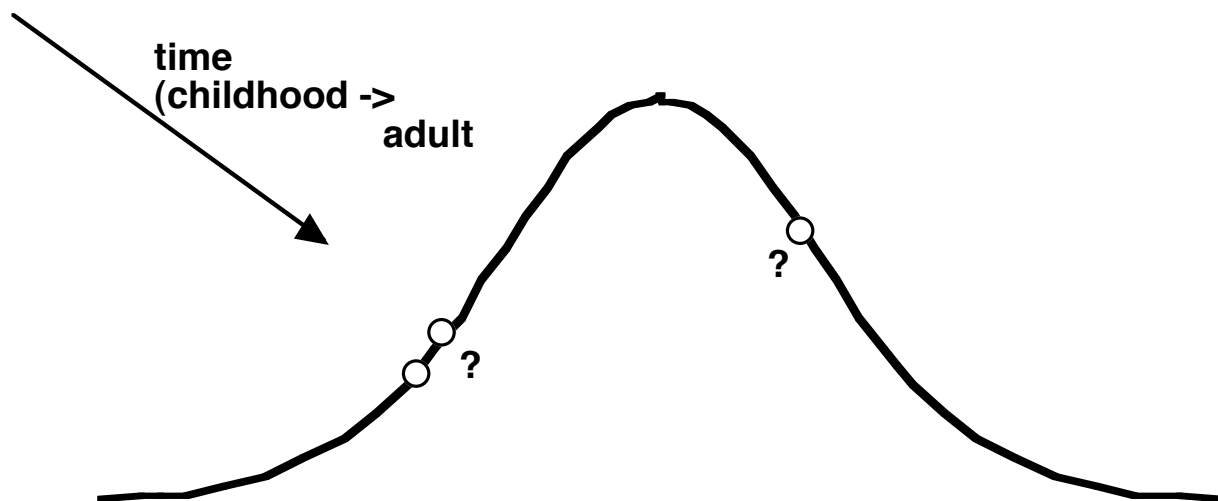
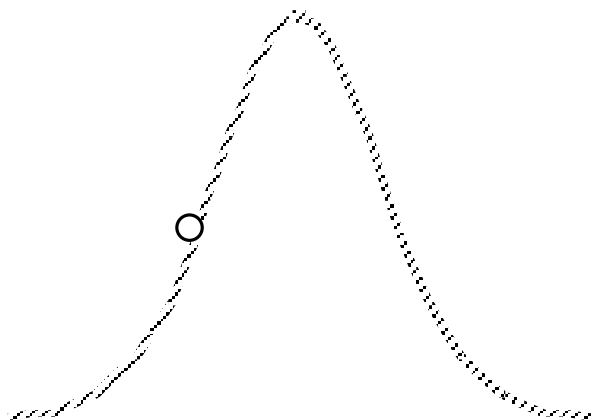
+ coefficient2 * value of
environmental factor

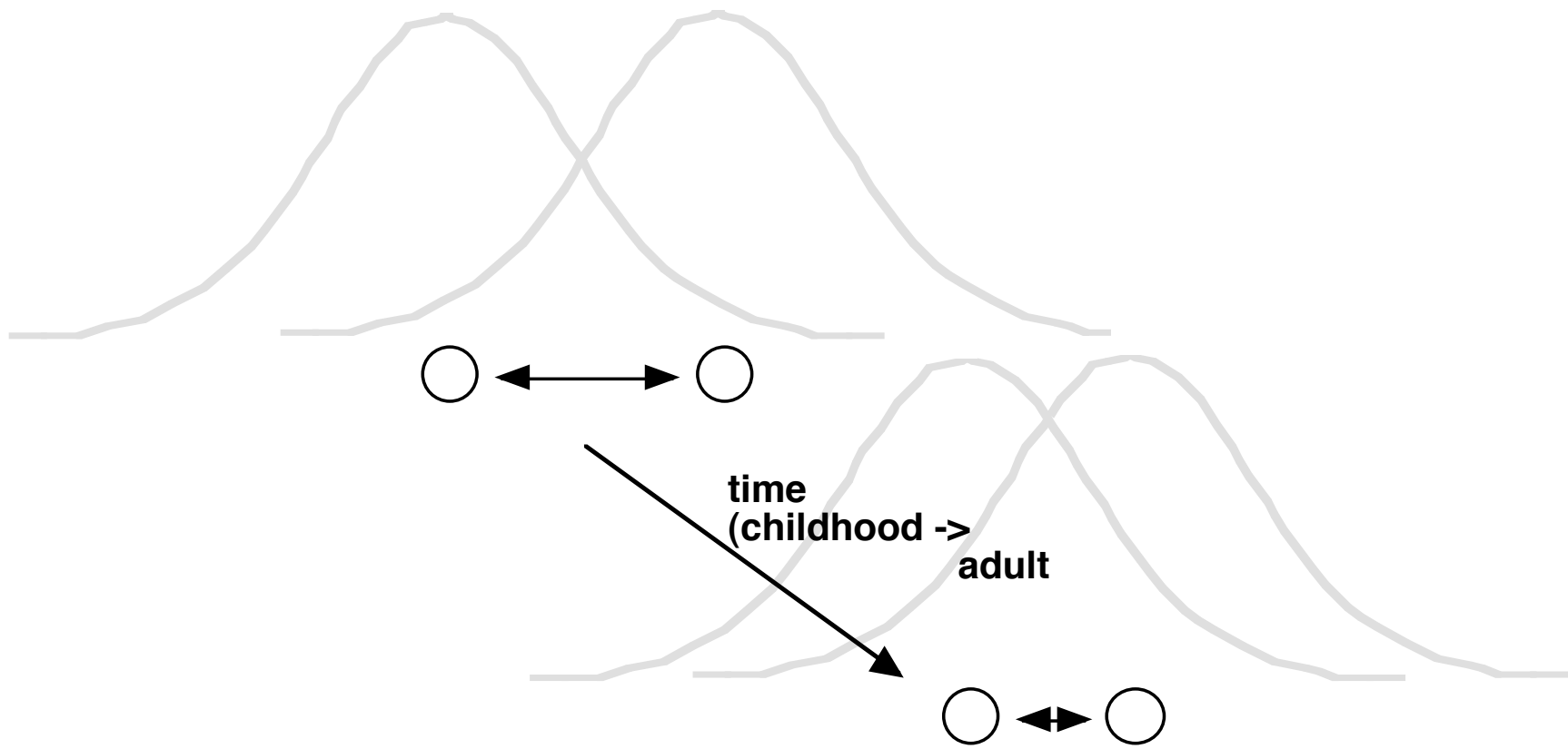
+ coefficient3 * value of
genetic factor * value of
environmental factor

+ Residual



V? L?
 $\alpha_g?$ $\beta_e?$





standard interpretation of heritability

“contribution of genetic differences to
observed differences among individuals”

so

a strong genetic contribution makes the
trait “a potentially worthwhile candidate
for molecular research”

Location → L1 L2 L3 L4 L5 L6 L7 L8

Twin Pair



TP1

{ DZT

TP2

{ MZT AAbbccDDee // FghiJ

TP3

{ MZT

genetic factors
(pairs of alleles)

TP4

{ DZT

sequence of
environmental
factors

TP5

{ DZT

TP6

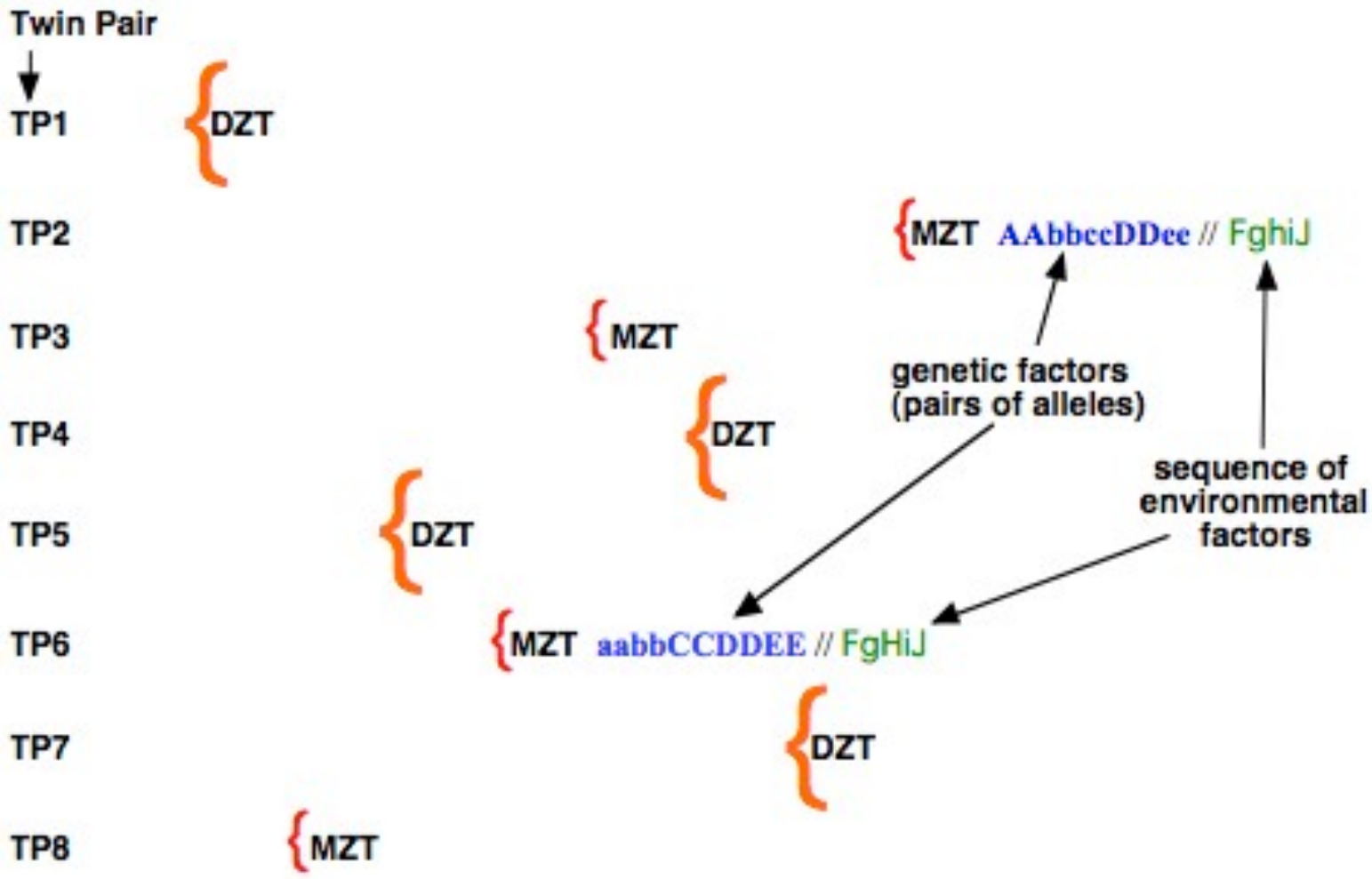
{ MZT aabbCCDDEE // FgHiJ

TP7

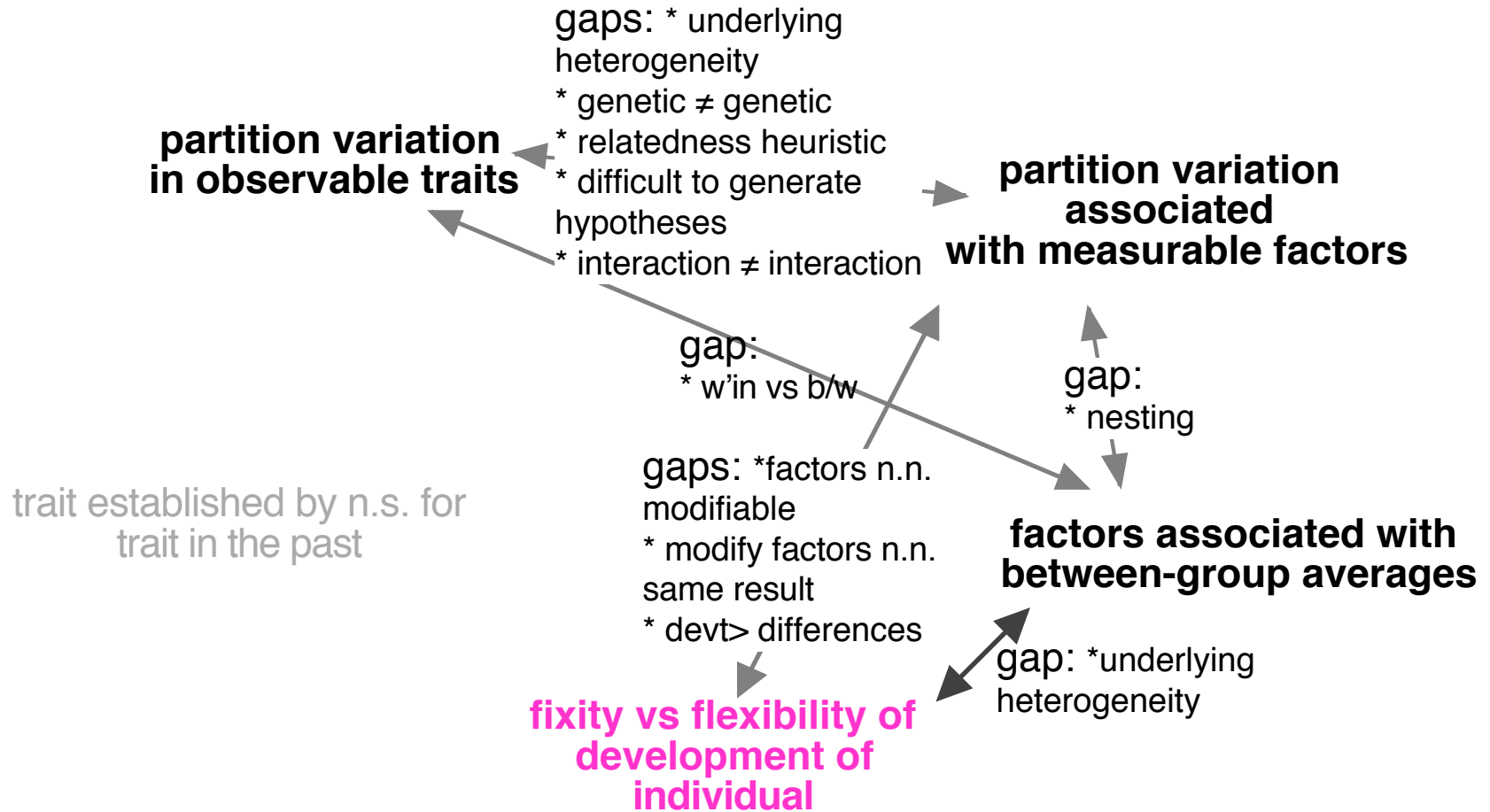
{ DZT

TP8

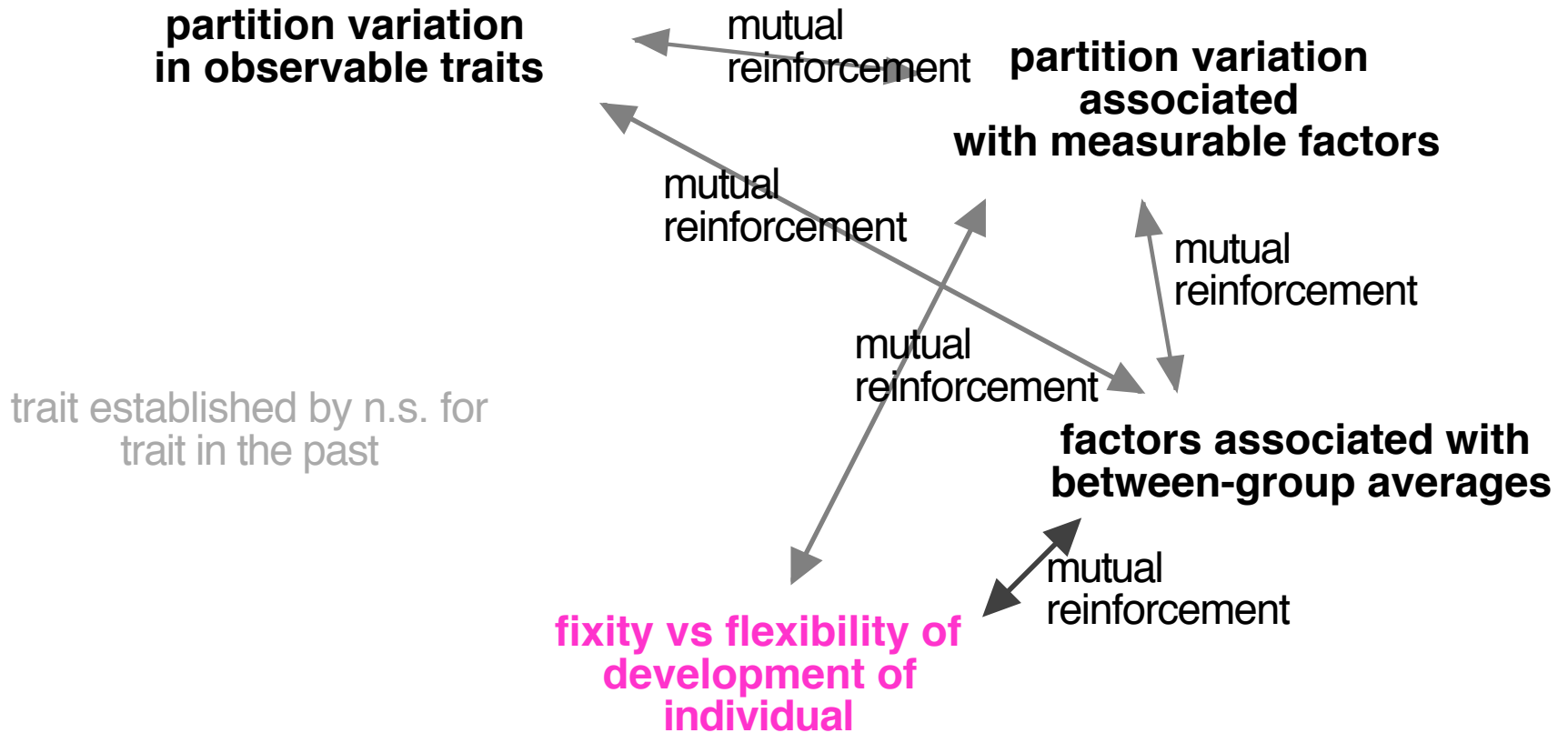
{ MZT



Nature-Nurture Sciences

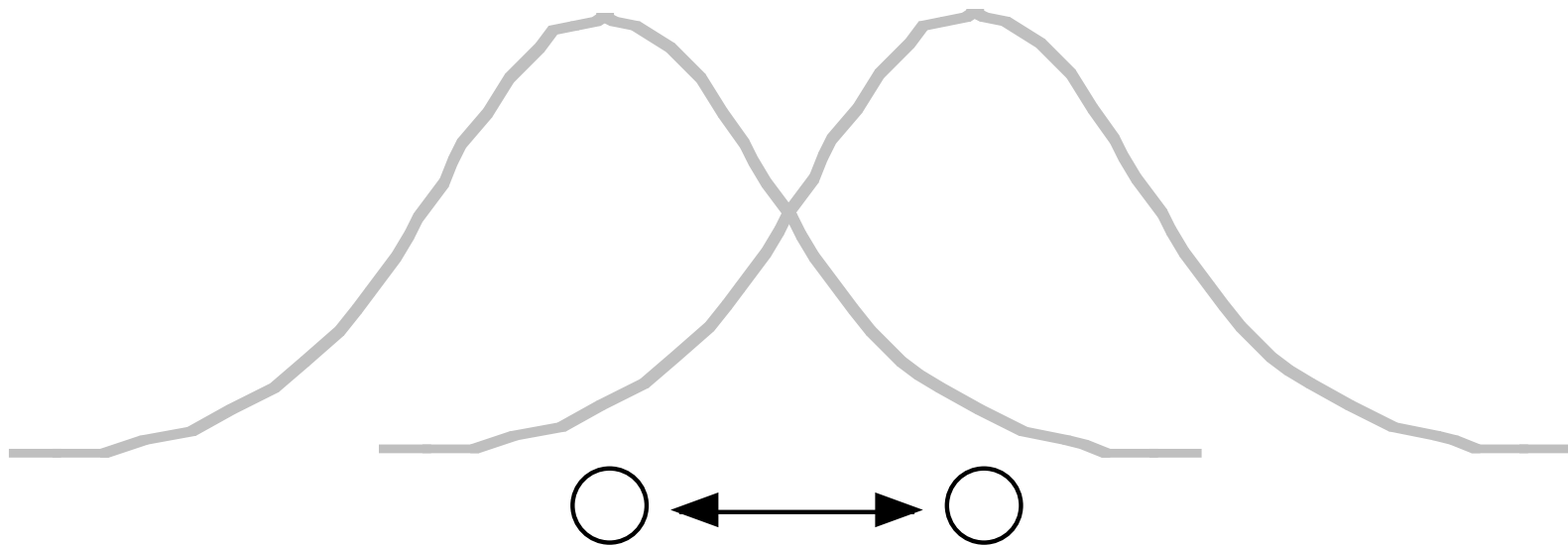


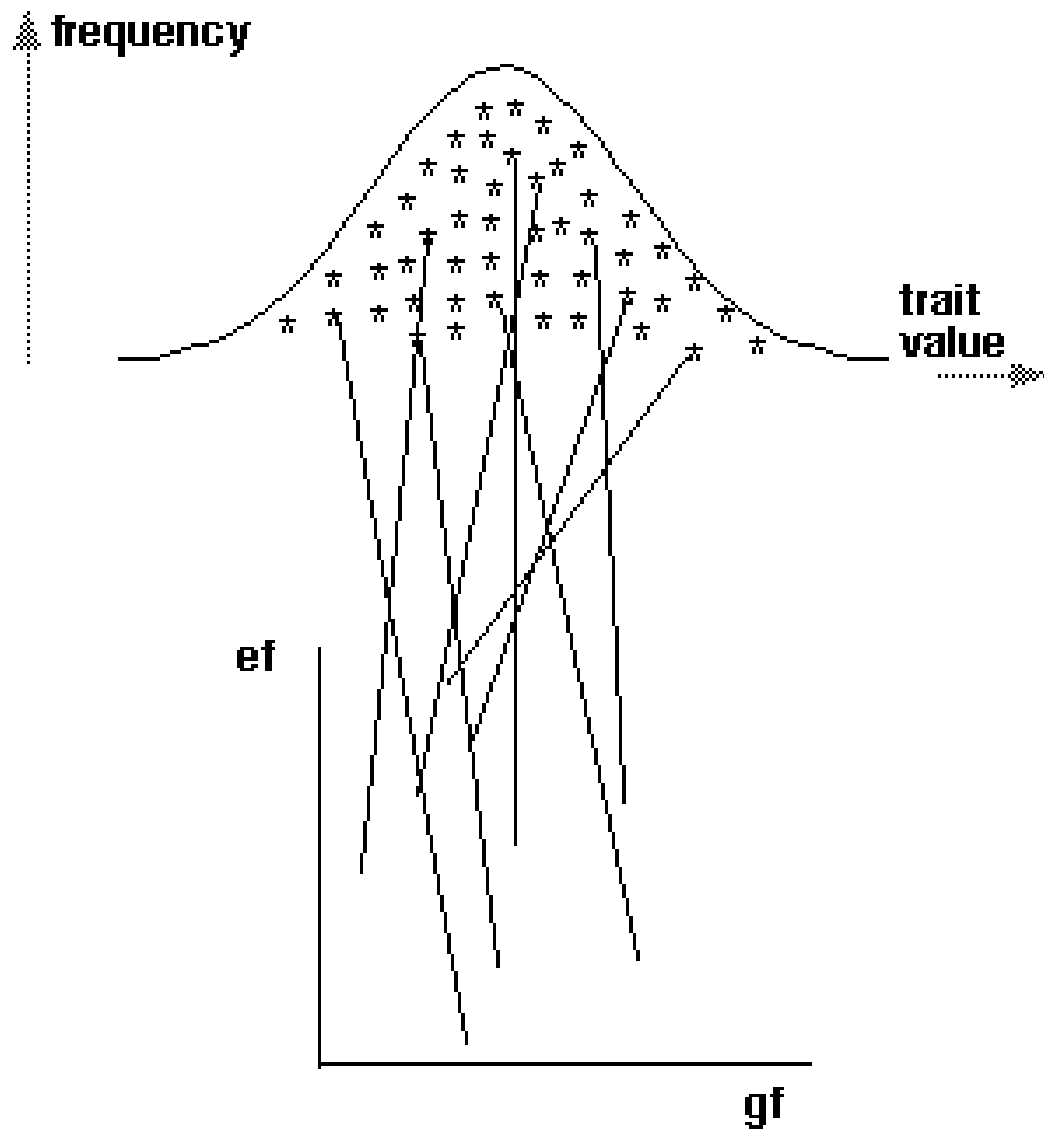
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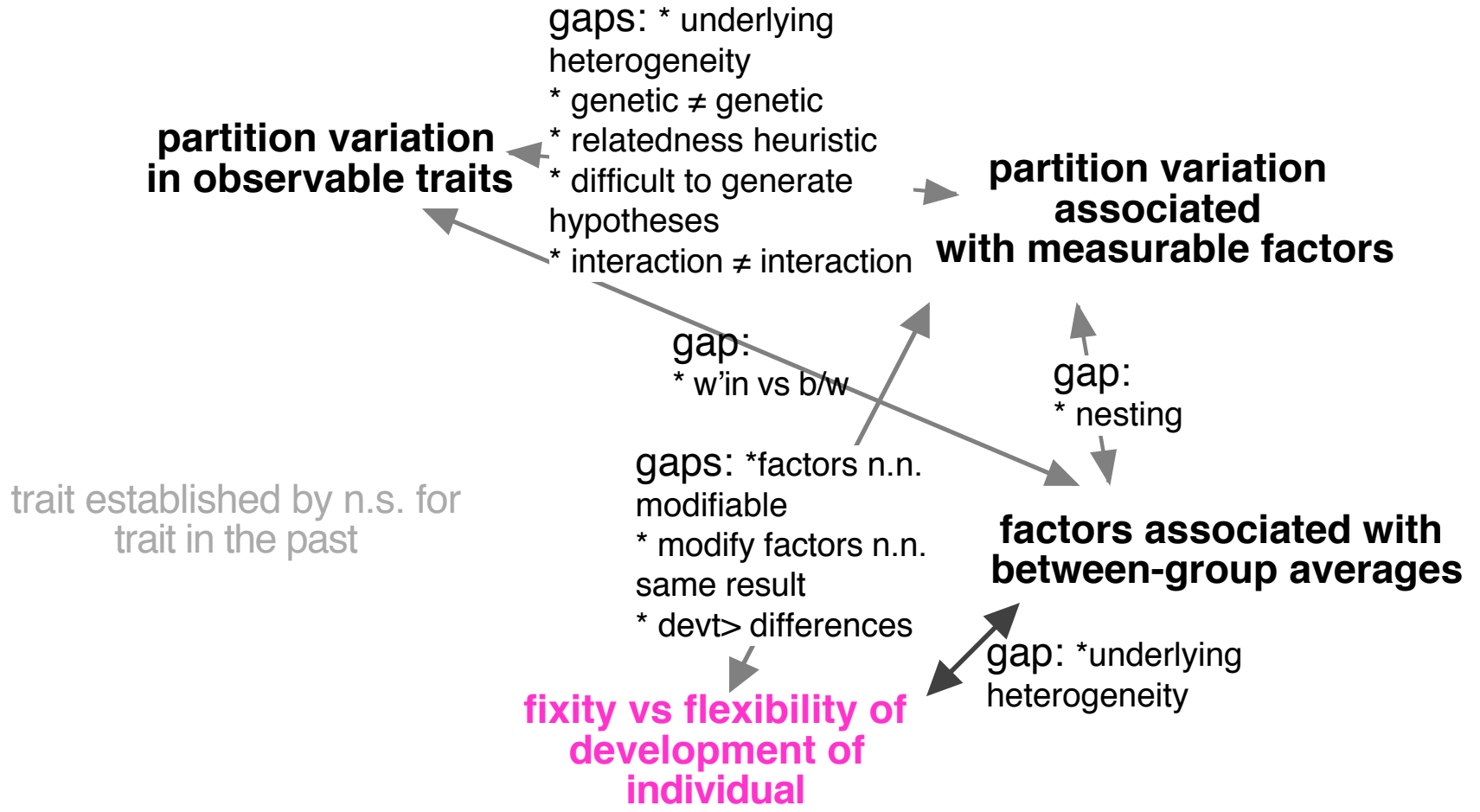
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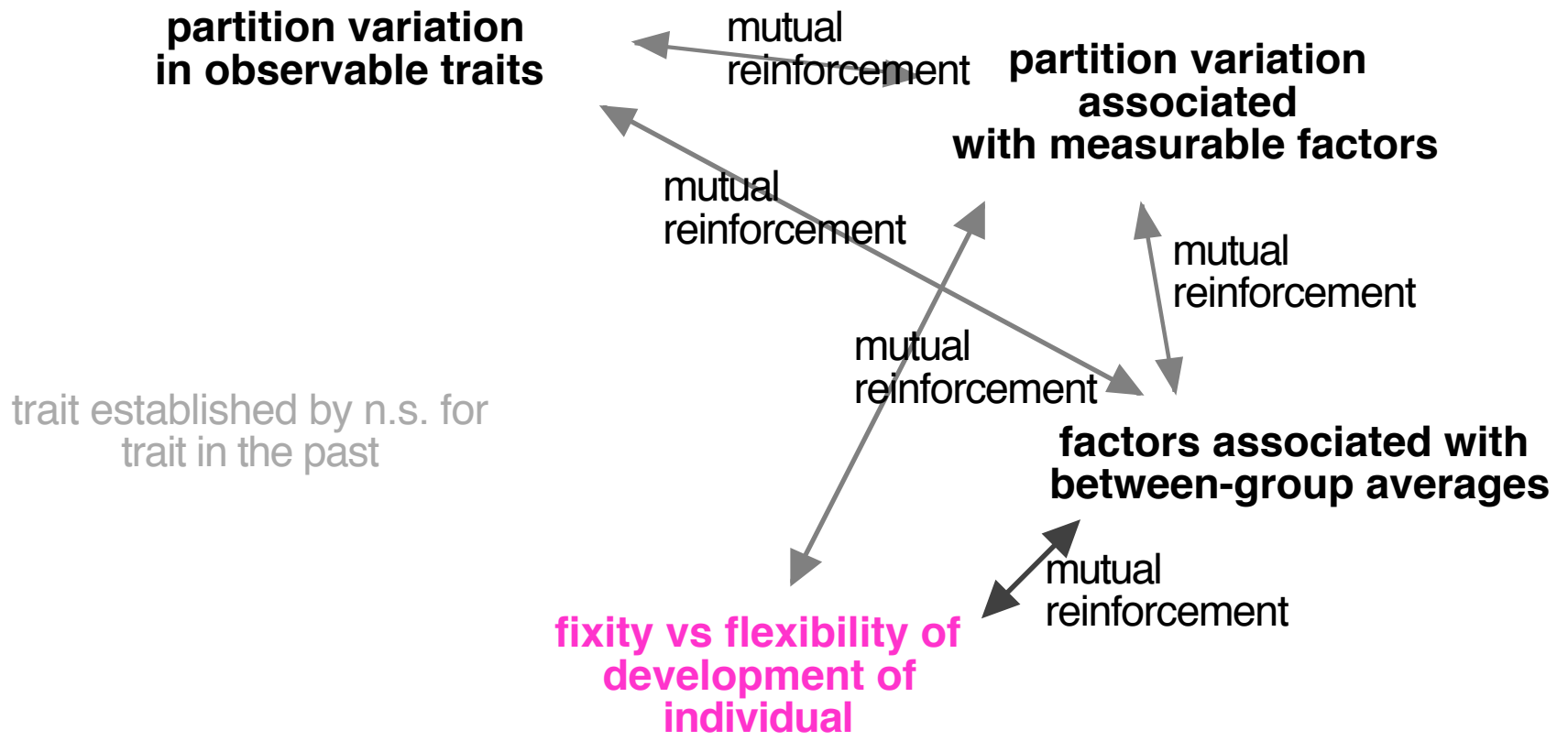




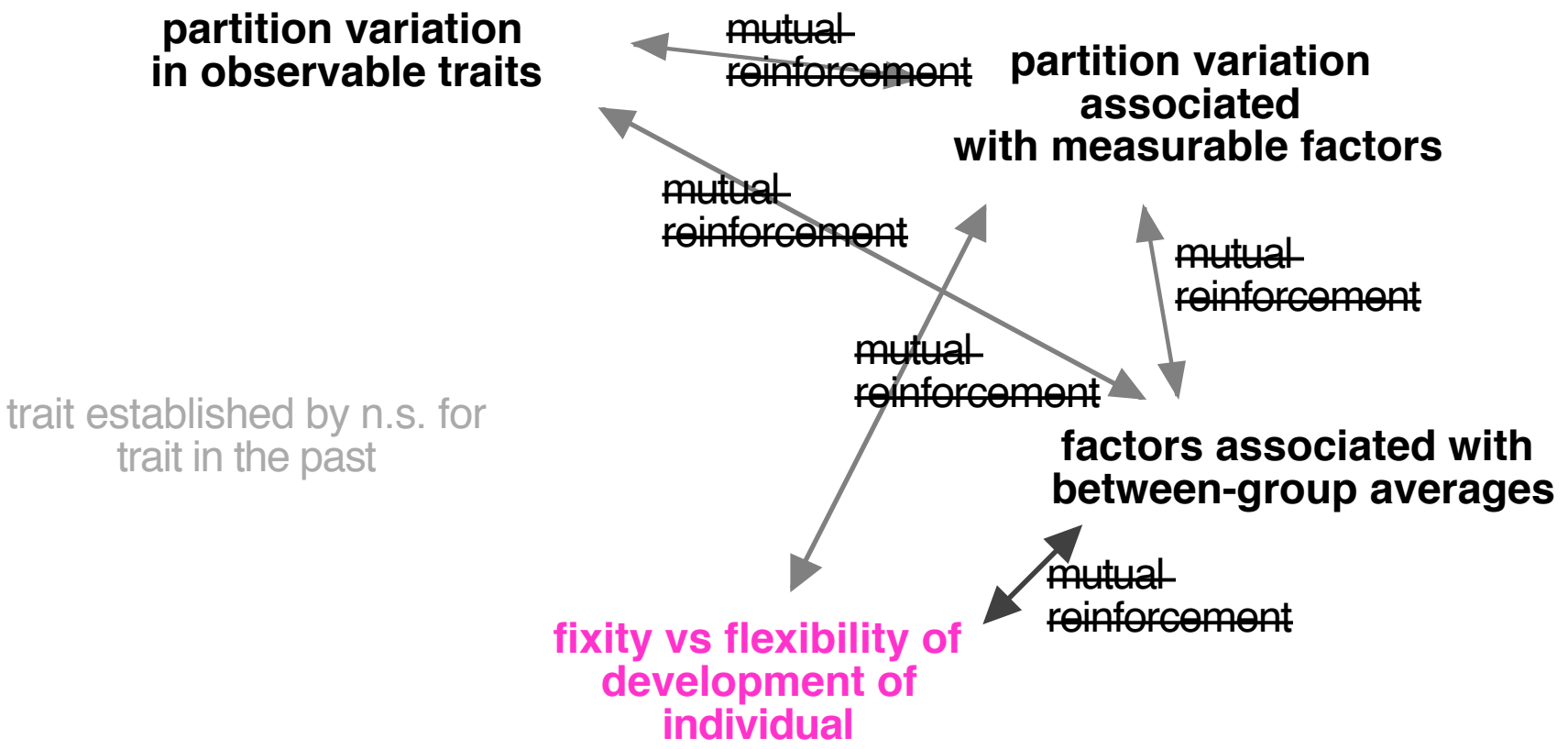
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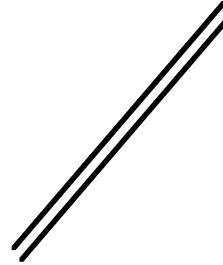
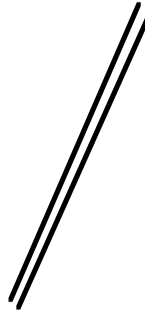
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nature versus nurture debate

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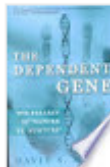


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*behavioral genetics is so
controversial*

*because the opposing
intellectual armies uncritically
share much in common*

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for sources & other follow up