

# “Lobbying Paradigm”

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## Recapture Developmental Biology

We have lost the term to the former  
“embryologists” studying the prenatal period

Worms, flies, mice

Outcome  $\neq$  gene x environment

Outcome = gene x environment x development

Environment = epigenetic effects on genes

Capture “Lifespan Development”

# Models

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## Descriptive vs Quantifiable

Model =

Hypothesis

Has structure based on known biology

Can be described mathematically

i.e. explicitly stated

Has mass balance (things add up)

Testable (intervention, probe – response)

Robust

Cannot be proven but can be falsified

Most parsimonious number of variables that can account for the data

# Basic Scientific Method

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Agree on definitions (terms)

Agree on metrification, methods, validations

Provide test – response

Explicitly state end point variables

Reproducibility

Predictability

# Limited Mention of New Biology

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Not mentioned at all

Genomics, proteomics, metabolomics, gene arrays

Epigenetics (Metagenetics)

Like Meta Model mentioned by Brian

Big Issue: How do we get into the brain

Tissue specificity

Limited mention of

Imaging

fMRI, PET, etc.

Animal Models

Human Models

Single gene defects (outliers)

Approaches to polygenic contributions

# The Ethics of Investigations in Children

How do I connect “mattering”,  
“competence”, “connectedness”,  
etc. to something that an aging  
biochemist can measure?