GV103: Introduction to International Relations

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Science as Simplification

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- Two goals for this lecture
 - Discuss central role of simplified models in science
 - 2 Clarify difference between theoretical and empirical models

What is Science?

Science

Means of scholarly inquiry that seeks to generate reproducible knowledge about the world through the development of theoretical and empirical models.

Model

A physical, conceptual, or mathematical representation of reality.

The Necessity of Simplification

"What do you consider the largest map that would be really useful?" "About six inches to the mile."

"Only six inches!" exclaimed Meinn Herr. "We very soon got to six yards to the mile. Then we tried a hundred yards to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of a mile to the mile!"

"Have you used it much?" I enquired.

"It has never been spread out, yet," said Mein Herr: "the farmers objected: they said it would cover the whole country...so now we use the country itself, as its own map, and I assure you it does nearly as well."

- Lewis Carroll

Science as Simplification

Simplification and Distortion



Science as Simplification

Simplification and Distortion



Purpose Relativity

Science as Simplification





How to Simplify

- Causes of effects v effects of causes
- States do not make decisions, but it can be useful for certain purposes to assume that they do
- Ex: "Why isn't there more cooperation?" and "Why aren't there even fewer wars?"
- But some questions of interest cannot be answered if we assume states make decisions
- Ex: "Do international institutions promote cooperation?"
- Or "Do electoral considerations influence whether governments choose war?"

Theoretical versus Empirical Models

- Theoretical models are thought experiments
 - Building foundations
 - 2 Explicating mechanisms
- Empirical models require data
 - Measurement and classification
 - Identifying patterns of association