POLS 205
Political Science as a Social Science

Course Introduction

Christopher Adolph

University of Washington, Seattle

March 29, 2010

Welcome

This course introduces the social science behind political science

Not like your other political science classes

Not about a set of cases or a big question about the world

A “meta” class about how we do political science research

How we answer questions and *choose* cases to study

Important for every area of political science research

What this class is

- Covers basics of qualitative & quantitative research
- First step to a career of social science research
- Key to understanding social science articles
- And to judging empirical claims in newspapers, political debates

What this class is not

- Not normative: We don't address what policies should be enacted, or debate political values

  (but the course will make you a better advocate/activist, if you want it to)

- Not directly substantive: No specific topic of research

  brief examples from areas of interest (comparative politics, political economy, American politics)

- Not heavily mathematical: Show basic quantitative methods in application,
  but leave out the mathy details about how these methods work

Your grade on part two of course will depend on:

- designing a research project that could use quantitative methods
- interpreting the results of a quantitative study
- NOT on conducting quantitative research yourself

What is science?

How do we know what we know?

Where did political science come from?

Course administration

Goal of scientific research

Develop theories of the causes and effects of natural and social phenonema that are supported by reproducible evidence

Nothing less than building a comprehensive understanding of how the world works

From the the micro (subatomic particles, DNA, and microbes) to the macro (earthquakes, machines, and societies)

Social science—the study of societies—presents special difficulties, but uses the same methods

Steps in the Scientific Method

1. Observe the world / Read past studies
2. Form a research question based on 1.
3. Build a theory, preferably causal, to answer the question
4. Choose an area to test theory
5. Operationalize theory: Measure variables, generate hypotheses
6. Analyse the data obtained in 5.
7. Report results: is the hypothesis confirmed, or rejected?
8. Replicate & repeat. . .

Terms to learn today

Theories, Causal theories

Measurement/Operationalization

Hypotheses

Data

Hypothesis testing

Del rigor en la ciencia
Jorge Luis Borges & Adolfo Bioy Casares, 1946

. . . En aquel Imperio, el Arte de la Cartografía logró tal Perfección que el Mapa de una sola Provincia ocupaba toda una Ciudad, y el Mapa del Imperio, toda una Provincia. Con el tiempo, estos Mapas Desmesurados no satisficieron y los Colegios de Cartógrafos levantaron un Mapa del Imperio, que tenía el Tamaño del Imperio y coincidia puntualmente con él. Menos Adictas al Estudio de la Cartografía, las Generaciones Siguientes entendieron que ese dilatado Mapa era Inútil y no sin Impiedad lo entregaron a las Inclemencias del Sol y los Inviernos. En los Desiertos del Oeste perduran despedazadas Ruinas del Mapa, habitadas por Animales y por Mendigos; en todo el País no hay otra reliquia de las Disciplinas Geográficas.

Suárez Miranda: *Viajes de varones prudentes*, libro cuarto, cap. XLV, Lérida, 1658.

Of Exactitude in Science
trans. Normal Thomas de Giovanni, 1975

. . . In that Empire, the Craft of Cartography attained such Perfection that the Map of a single Province covered the space of an entire City, and the Map of the Empire itself an entire Province. In the course of time, these Extensive Maps were found somehow wanting, and so the College of Cartographers evolved a Map of the Empire that was of the same Scale as the Empire and that coincided with it point for point. Less attentive to the Study of Cartography, succeeding Generations came to judge a Map of such magnitude Cumbersome, and, not without Irreverence, they abandoned it to the Rigours of Sun and Rain. In the Western Deserts, tattered Fragments of the Map are still to be found, Sheltering an occasional Beast or Beggar; in the whole Nation, no other relic is left of the Discipline of Geography.

From *Travels of Praiseworthy Men* (1658) by J. A. Suarez Miranda

What is a scientific model? A simplified description of real world relationships

- "When A occurs, I also expect to see B."
- "Any two countries at war with each other will not both be democracies."

Causal model: simplified explanation of causal relationships

- "If A occurs, then B will result."
- "If two countries are democracies, they will not start a war with each other."

All scientific theories are wrong

- no scientific theory is a complete and true description of the world
- All theories leave something out

Good theories are useful, plausible, and parsimonious

Concepts used in mathematical logic, not science:

- Truth: A math theorem is true or false with 100% certainty
- Proof: Ironclad reasoning that shows a math theorem is true

In science, we have:

- Evidence: Empirical findings that increase the likelihood a theory accurately describes the world

Evidence is always incomplete.
Scientists must be open to new evidence and possibility of error.

Nothing in science is ever proven.
Few scientists use the word “proof” to describe evidence.

What makes a model useful?

- Plausibility
- Parsimony
- Internal consistency
- Explanatory power
- Predictive power
- Scope

Case selection

Our model need not apply in all places and times

> "If two countries are democracies, they will not start a war with each other."

Our super-simple model of the democratic peace may only apply to industrial and post-industrial democracies, but not to classical Athenian democracy.

Once we define the scope of our model, we need to select some set of cases to study

A case: the units to be analyzed. Each case for our democratic peace example might be a dyad-year.

Case selection

Cases for a democratic peace dataset

Case 1	US-France, 1910
Case 2	US-Germany, 1910
Case 3	France-Germany, 1910
⋮	⋮
Case k	Zimbabwe-Zambia, 1990

For each case, we record our observations on each variable (Were the countries at war? Were both democracies?)

In this example, we might have tens of thousands of cases! But we might in another example have a thousand, or a dozen.

Ideally, we select either a census or a random sample. We'll discuss other selection strategies in two weeks.

Different ways of knowing (epistomology)

- Arguments from Wishful Thinking

  "As a citizen of a democratic state, I *would like to believe* that there is little chance I will be sent to fight a war against another democracy."

Different ways of knowing (epistomology)

- Arguments from Wishful Thinking

  "As a citizen of a democratic state, I *would like to believe* that there is little chance I will be sent to fight a war against another democracy."

- Arguments from Authority

  "Immanuel Kant was sure that democracies would be peaceful. *If that opinion was good enough* for the greatest philosopher of all time, *it's good enough for me*."

Different ways of knowing (epistomology)

- Arguments from Wishful Thinking

  "As a citizen of a democratic state, I *would like to believe* that there is little chance I will be sent to fight a war against another democracy."

- Arguments from Authority

  "Immanuel Kant was sure that democracies would be peaceful. *If that opinion was good enough* for the greatest philosopher of all time, *it's good enough for me*."

- Arguments from Faith

  "I believe that democracy instills peaceful values, and *will continue to believe* this even in the face of contrary evidence."

Different ways of knowing (epistomology)

- Arguments from Pure Reason (Rationalism)

  "I *assume* that the median voter in a democracy has more to lose from war than the selectorate of dictatorship, and *deduce* from the median voter theorem that democracies refrain from more wars than authoritarian regimes."

Different ways of knowing (epistomology)

- Arguments from Pure Reason (Rationalism)

  "I *assume* that the median voter in a democracy has more to lose from war than the selectorate of dictatorship, and *deduce* from the median voter theorem that democracies refrain from more wars than authoritarian regimes."

- Arguments from Sense Evidence (Empiricism)

  "I *observe* that over the past two centuries, countries with democratic institutions (free and competitive elections, broad and universal civil liberties) have had few and limited violent interstate conflicts."

Different ways of knowing (epistomology)

- Arguments from Pure Reason (Rationalism)

  "I *assume* that the median voter in a democracy has more to lose from war than the selectorate of dictatorship, and *deduce* from the median voter theorem that democracies refrain from more wars than authoritarian regimes."

- Arguments from Sense Evidence (Empiricism)

  "I *observe* that over the past two centuries, countries with democratic institutions (free and competitive elections, broad and universal civil liberties) have had few and limited violent interstate conflicts."

- Arguments from Inter-subjectivity (Constructivism)

  "Democracy and Peace are socially constructed concepts within a community of states; they go together because these states *have chosen to define themselves* as democratic and their relations as peaceful."

We will focus on the empirical approach to scientific knowledge, but will consider rational and constructivist perspectives at times

Science is a method, not a body of knowledge or a field of inquiry

Science seeks tentatve, verifiable, evidence-based explanations of natural and social phenomena

Scientific evidence can be gathered by experiment or observation

Experiment-heavy fields: Molecular Biology, Chemistry, Physics, Psychology

Observation-heavy fields: Astronomy, Evolutionary Biology, Economics, Political Science, Sociology

Some natural scientists object to political science on grounds that it is largely observational, not experimental

Oddly, these natural scientists don't reject astronomy

Social science can be a science if it lives up to three burdens:

- Methods and data must be available to public
- Analysis of data must be repeatable and transparent
- Scientific community adapts consensus to publicly reproducible evidence

  Doesn't require individuals to admit they were wrong, just the community (Kuhn & Scientific Revolutions)

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?
Common objections:

Sui Generis Every case (person, country) is unique, so generalization is impossible

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?
Common objections:

Sui Generis Every case (person, country) is unique, so generalization is impossible

Sol'n: Include an idiosyncratic component in models
Then analyze the common variance

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?
Common objections:

Sui Generis Every case (person, country) is unique, so generalization is impossible

Sol'n: Include an idiosyncratic component in models
Then analyze the common variance

Borges' Map The world is too complex, with endless causes and effects

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?
Common objections:

Sui Generis Every case (person, country) is unique, so generalization is impossible

Sol'n: Include an idiosyncratic component in models
Then analyze the common variance

Borges' Map The world is too complex, with endless causes and effects

Sol'n: Focus on big variables to explain most variance
(Over)simplify to model

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?
Common objections:

Sui Generis Every case (person, country) is unique, so generalization is impossible

Sol'n: Include an idiosyncratic component in models
Then analyze the common variance

Borges' Map The world is too complex, with endless causes and effects

Sol'n: Focus on big variables to explain most variance
(Over)simplify to model

Anti-naturalism Scientific method works for nature, but not for socieites

Really? Why not?
Biologists study ants, bees, wasps, & chimpanzees, too

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?

YES!

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?

YES!

But four complications which are more severe than in natural sciences:

- Complex interaction among observed units (no independence)

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?

YES!

But four complications which are more severe than in natural sciences:

- Complex interaction among observed units (no independence)
- Awareness of being studied & of research findings (Hawthorne Effect, monetarism)

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?

YES!

But four complications which are more severe than in natural sciences:

- Complex interaction among observed units (no independence)
- Awareness of being studied & of research findings (Hawthorne Effect, monetarism)
- Ethics limit observation and treatment of human subjects (Milgram)

Objections to social science

Can society be studied the same way subatomic particules, molecules, planets, bacteria, and animals are studied?

YES!

But four complications which are more severe than in natural sciences:

- Complex interaction among observed units (no independence)
- Awareness of being studied & of research findings (Hawthorne Effect, monetarism)
- Ethics limit observation and treatment of human subjects (Milgram)
- Subjectivity inevitable in all stages of research: concepts, theory, analysis (post-modernist critiques)

  The reasoning behind political behavior cannot be measured objectively.

  Political phenomena are constructed or conditioned by the observer's perceptions, experiences, and opinions.

Social science is harder and offers less return for a given effort.

But impact on human lives potentially very great:

- Preventing or ameliorating recession
- Policy analysis: understanding effects of different policy regimes, e.g., in health care
- Understanding causes of war
- Predicting failure of democracy or states themselves

“If it’s worth doing, it’s worth doing badly!”

BUT

Because social science is hard to do well, every improvement in methods and data helps

Where does political science fit in?

Most social sciences differ somewhat in their field of study (crude simplifications):

Anthropologists study the origins of human culture

Psychologists study the mind and personality, esp. in interaction

Economists study production and exchange of goods and services

Sociologists study everything else—especially non-economic interations

Political Scientists study governance: participation and organization in the organization of society, and interactions between societies

Satisfying division?

Where does political science fit in?

Most social sciences differ somewhat in their field of study (crude simplifications):

Anthropologists study the origins of human culture

Psychologists study the mind and personality, esp. in interaction

Economists study production and exchange of goods and services

Sociologists study everything else—especially non-economic interations

Political Scientists study governance: participation and organization in the organization of society, and interactions between societies

Satisfying division? Not really: huge overlaps

Where does political science fit in?

Economists define most human activity as production or exchange

Anthropology & Sociology seem all encompassing

And couldn't you build up a psychological explanation of any human interaction, even war or policy making?

Where does political science fit in?

In addition to field, most fields defined by a theoretical perspective or debate

Anthropologists divided: 1.) study physical remains of ancient cultures using diverse methods; 2.) study language & society; 3.) study social construction of modern and ancient societies

Where does political science fit in?

In addition to field, most fields defined by a theoretical perspective or debate

Anthropologists divided: 1.) study physical remains of ancient cultures using diverse methods; 2.) study language & society; 3.) study social construction of modern and ancient societies

Psychologists study behavior and choice from a biological perspective

Where does political science fit in?

In addition to field, most fields defined by a theoretical perspective or debate

Anthropologists divided: 1.) study physical remains of ancient cultures using diverse methods; 2.) study language & society; 3.) study social construction of modern and ancient societies

Psychologists study behavior and choice from a biological perspective

Economists study behavior and choice from a rationalist perspective

Where does political science fit in?

In addition to field, most fields defined by a theoretical perspective or debate

Anthropologists divided: 1.) study physical remains of ancient cultures using diverse methods; 2.) study language & society; 3.) study social construction of modern and ancient societies

Psychologists study behavior and choice from a biological perspective

Economists study behavior and choice from a rationalist perspective

Sociologists study behavior from more social, less individualistic perspective

Where does political science fit in?

In addition to field, most fields defined by a theoretical perspective or debate

Anthropologists divided: 1.) study physical remains of ancient cultures using diverse methods; 2.) study language & society; 3.) study social construction of modern and ancient societies

Psychologists study behavior and choice from a biological perspective

Economists study behavior and choice from a rationalist perspective

Sociologists study behavior from more social, less individualistic perspective

Political Scientists . . . have no unifying theoretical perspective!

Short history of political science

Political science at once ancient and very young

Political theory dates to Plato and Aristotle; key role in Renaissance

As a field, political science emerges only around 1900 from history

Short history of political science

Waves of outside ideas hit the field:

Legal Initially, political science a sort of legal subspecialty focusing on constitutions: what do they say, how do they differ

Short history of political science

Waves of outside ideas hit the field:

Legal Initially, political science a sort of legal subspecialty focusing on constitutions: what do they say, how do they differ

Public opinion In 1940s onwards, explosion of public opinion research in social science: understanding individual behavior. Quantitative and Empirical.

Short history of political science

Waves of outside ideas hit the field:

Legal Initially, political science a sort of legal subspecialty focusing on constitutions: what do they say, how do they differ

Public opinion In 1940s onwards, explosion of public opinion research in social science: understanding individual behavior. Quantitative and Empirical.

Sociology From 1950s onwards, increasing awareness of large social forces; development of comparative politics to examine questions like economic development

Short history of political science

Waves of outside ideas hit the field:

Legal Initially, political science a sort of legal subspecialty focusing on constitutions: what do they say, how do they differ

Public opinion In 1940s onwards, explosion of public opinion research in social science: understanding individual behavior. Quantitative and Empirical.

Sociology From 1950s onwards, increasing awareness of large social forces; development of comparative politics to examine questions like economic development

Economics From 1970s onwards, steady increase in rationalist theory building, starting in American politics but spreading to all fields

Short history of political science

Waves of outside ideas hit the field:

Legal Initially, political science a sort of legal subspecialty focusing on constitutions: what do they say, how do they differ

Public opinion In 1940s onwards, explosion of public opinion research in social science: understanding individual behavior. Quantitative and Empirical.

Sociology From 1950s onwards, increasing awareness of large social forces; development of comparative politics to examine questions like economic development

Economics From 1970s onwards, steady increase in rationalist theory building, starting in American politics but spreading to all fields

What next? Methodological pluralism. Some hints of experimentalism, biology . . . Political science unlikely to ever have a single theoretical paradigm

Next time: Dive into scientific method with theory building

Now: Review syllabus

Finally: In-class project