Social Science and History:
How Predictable is Political Behavior?

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I. Let me begin this lecture with a methodological assertion: There is a between the aims of social science and history.

A. From the vantage point of social science much is inherently unpredictable insofar as patterns of causality may be so complex as to defy systematic analysis, or truly stochastic events exist.

B. From the vantage point of history, every historical event is open to explanation, because every event is a direct consequence of particular decisions and circumstances.

II. Next let me make a claim about the world, that has methodological implications.

A. If the future is not entirely predictable, then much about the future is necessarily unknown to decision makers at the moment of choice.

B. In this case, even the best rational decisions reflect both uncertainty and ignorance, and, consequently, mistakes will be made.

C. In this case, behavior that is entirely rational will not be entirely predictable.

D. And, moreover, exactly how predictable rational political behavior is cannot be known with certainty, thus the title of this lecture.

III. Determinism and Uncertainty in Social Science and History

A. To understand why social science is willing to accept uncertainty, perhaps even more so than modern physics, which has increasingly come to be erected on statistical foundations, consider the following example.

B. Suppose that a leading government official is rolling two six-sided dice and desperately wants the numbers to add up to seven at the moment the dice come to rest.

C. For a physicist, the solution to this problem is entirely within the realm of calculation.

i. A sufficiently precise analysis of initial conditions: shape of the hand, weight and size of the dice, the coefficients of friction, gravity field, and inclination of the surface on which the dice will be rolled will imply that a wide range of forces and vectors that could, potentially, cause the dice to stop rolling at a particular place and with a particular numerical configuration.

ii. There are many perfect solutions; there are many ways to roll a seven on a particular surface!

iii. The problem faced by an engineer who wishes to implement the physicist's theory is a bit more difficult than ordinary physics implies, because physicists tend to focus on general rather than specific cases.

iv. To design a machine that causes two dice to land at a particular spot and in a specific configuration involves other factors, which make the problem more demanding than implied by a physicist's precise and sophisticated computations of Newtonian forces and inertia.

v. For example, the material of the dice and machines, themselves, absorb and release energy through time, and also slightly change shape as these processes take place.

vi. This does not mean that the physicist's conclusions are incorrect, but it does imply that other neglected factors may affect the final design of a dice-throwing machine.

vii. A talented engineer might well be able to design a machine that would cause a pair of dice to stop at more or less the intended place with exactly the correct number of spots on the top, given specific characteristics of the dice, gravity, wind, temperature, and the surface upon which the dice are to be thrown.

D. However, people are not machines.

i. Historical experience has shown that no person can exercise sufficient control over his or her hand to achieve such predictable results if significant rolling of the dice is required.

ii. It is for this reason that casinos have long been profitable and that many commercial board games use dice to induce a bit of playful uncertainty.

iii. It is entirely because of the limited precision of human coordination and calculation that games of chance remain entertaining and profitable.

E. Consequently, the extent to which a social scientist can predict the outcome of a particular roll of the dice by a top government official is limited.

i. We can predict with absolute certainty that the numbers will add up to no less than two, nor to more than twelve, but we cannot predict much else about any single roll of the dice.

ii. Fortunately, statistical theory allows us to go a bit beyond such well-informed statements of ignorance.

F. Statistics implies that little can be said about a single roll of the dice, but that a variety of predictions can be made about a series of dice throws--the outcomes of the case in which our government official rolls the dice repeatedly.

i. These predictions are testable, insofar as a series of rolls may refute a number of hypotheses about dice rolling for example that dice can be "hot" if they are fair.

ii. Social scientists can, thus, provide explanations of particular "histories" of governmental dice rolling in more or less similar circumstances and can make predictions about as yet unrealized histories that would emerge in the future.

iii. A government official will roll a seven about 1/6 of the time using unweighted dice in ordinary circumstances.

G. For a historian the question is a bit different and in many ways more interesting.

i. Having observed a particular roll of the dice, the historian wants to understand exactly why the values observed arose.

ii. Here, there are clearly proximate causes more or less the same ones used by our physicist, and also more indirect causes: the government official rolling the dice was upset, was under pressure, had been exposed to different theories of rolling dice, was affected by beliefs about divine causality, was left handed, near sighted, weak from age, lived north of the equator, etc.

iii. All these factors might affect the manner in which the dice were thrown and, therefore, would largely determine the flight of the dice actually observed.

iv. It is entirely possible that this partial list of factors might have determined the exact trajectory of the dice imposed by the official who controlled the dice and the numbers that appeared on top.

v. Such completely accurate histories may, thus, fully account for what happened without shedding light on what will happen on the next roll.

vi. Although history will repeat itself, about 1/6th of the time in this case; little of the detail that applies to a particular instance of dice rolling will be relevant for explaining the next similar event (rolling a seven).

vii. Either the underlying chain of causality is too complex to be fully understood or truly stochastic phenomena occur.

H. This is not to say that social science is only about prediction or that history only analyzes particular historical events, because the persons who engage in these enterprises are often themselves interested in both questions to varying degrees, and properly so.

i. Social science provides a lens through which particular historical events can be understood, and historical research often produces new hypotheses to be tested as well as facts that may be used to test existing hypotheses.

ii. Such "convex combinations" of research interests produce a more useful and compact body of knowledge for fellow travelers, teachers, readers, and practitioners than would have been produced by methodological purists.

I. Moreover, in areas where there are few determining factors, the analysis of historians and social scientists tend to be very similar.

i. The light went on because a person flipped the wall switch.

ii. The building survived a direct lightening strike unharmed because it was protected by Ben Franklin's invention (the lightning rod).

iii. The battle was lost because the losers were greatly outnumbered, outgunned, and caught by surprise.

iv. Prices rose in 17th century Spain because of the influx of gold from South America. In cases where causal relationships are simple, even a single instance may generalize perfectly to a wide variety of settings.

v. In other cases where causality is more complex, there are often many plausible claims and counter claims.

vi. Here disagreements are commonplace both across disciplines and within disciplines.

IV. The Scope of Uncertainty in Social Science

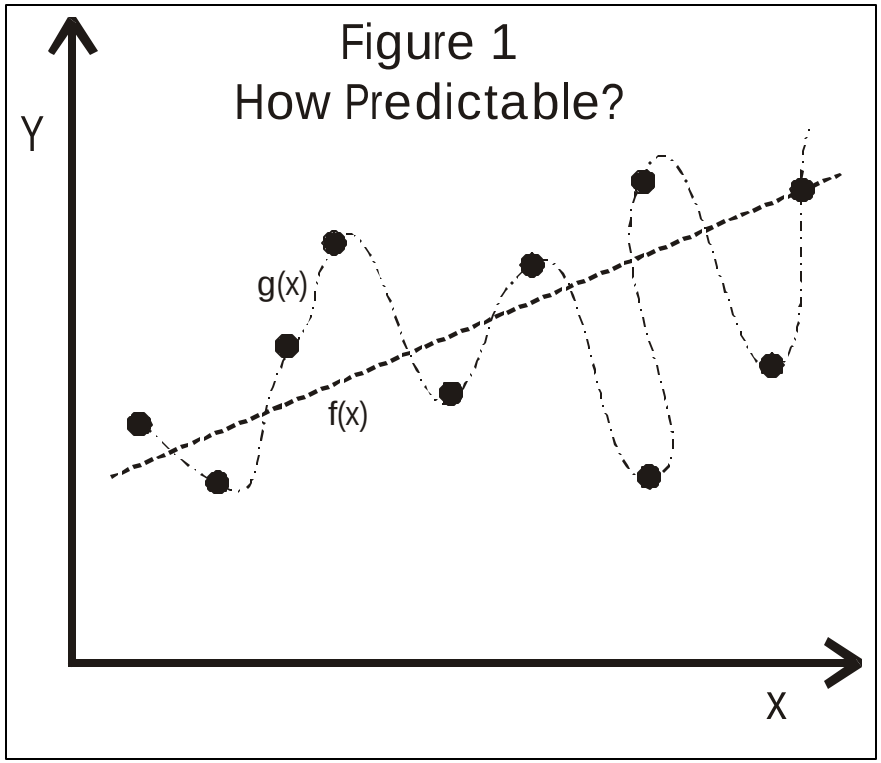
A. Controversy, however, is not always caused by differences in research interests, as might be said about differences between social scientists and historians.

B. Disagreements within social science exist, at least in part, because there is disagreement about the extent to which human behavior is predictable, in general or in particular circumstances, and therefore on the extent to which particular empirical results can be generalized.

C. To appreciate this point, consider the time series of data points depicted in **figure 1**.

i. For those who believe that the world is completely explainable, the "finely nuanced" dashed fitted line, g(x), will be the sort of theory they aspire to.

ii. For those who believe that the world is not so readily explained, the essential dotted linear line, f(x), is all that they believe can be accounted for.



D. Disagreements of this sort may cause social scientists to disagree for reasons that are similar to those discussed above, but that are subtly different.

i. Some social scientists would insist that we can, or will be able to, predict each successive dice roll.

ii. Others would regard such precision to be very unlikely.

V. It seems clear that we know a good deal about social phenomena that can be generalized and a good deal that cannot be generalized.

A. Such meta disagreements can lead to differences in methodology as well.

i. Social scientists will be more or less interested in historical detail according to their beliefs about the underlying predictability of the events being analyzed, because this affects priors about what is likely to be learned from different kinds of data.

ii. If not much is truly predictable, a good deal of historical data is simply random noise, rather than part of the underlying chain of causality.

B. Unfortunately, there is little systematic analysis or evidence of the meta-questions that might allow us to assess the extent to which long-standing theories will explain new cases or the extent to which special factors or new theories will be necessary to understand the cases not yet analyzed.

VI. An Illustration: Rational Choice and Political Science

A. Two extreme theories from rational politics can illustrate this dilemma.

B. Consider the implications of the Arrow theorem and the various Chaos theorems for democratic politics.

i. These theories basically imply that **rational political behavior can lead to any outcome and moreover that any outcome is as likely as any other.**

ii. That is to say, if we observed a series of majoritarian votes, we might eventually see every possible policy adopted (at least temporarily).

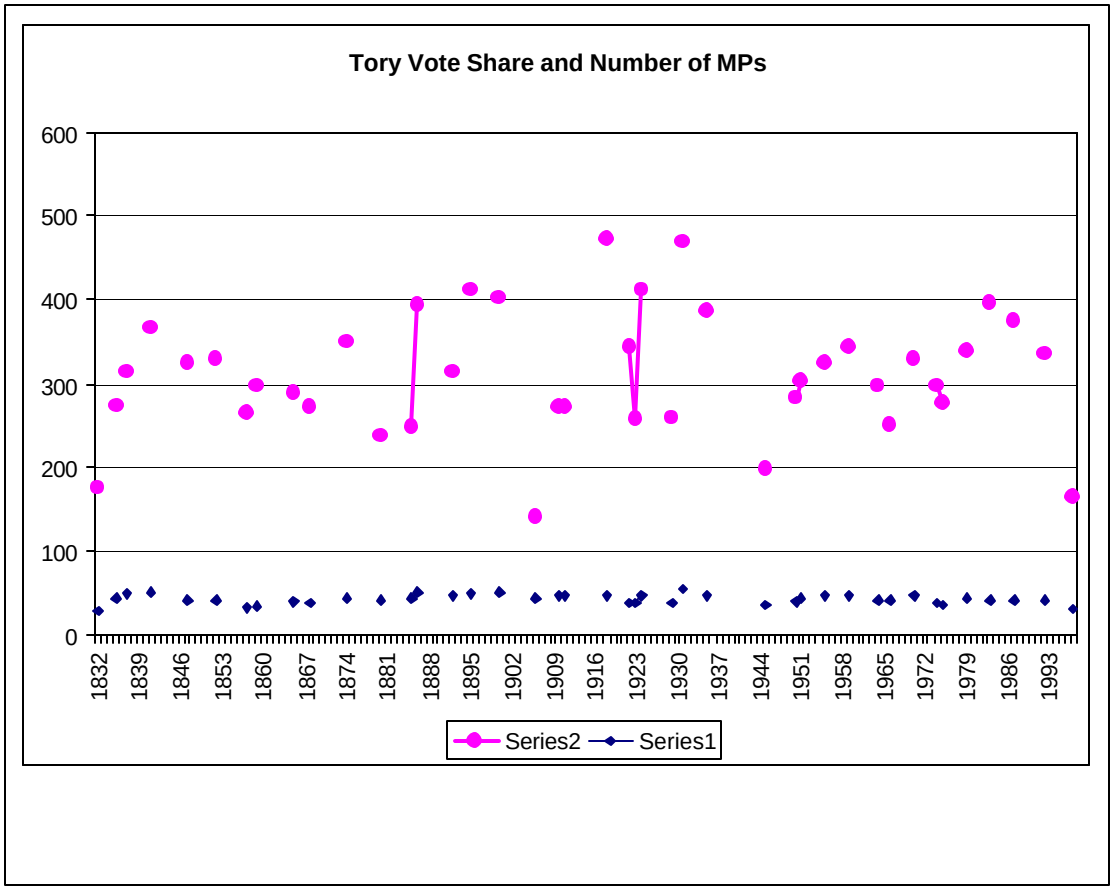
iii. In this case, the outcomes of democratic process would be essentially **unpredictable**.

iv. Democratic outcomes would reflect starting points and the order in which options were voted over.

C. Now consider the implications of the **Median Voter theorem**.

i. The strong form of the median voter theorem predicts that competition within competitive electoral systems (with two parties or two more or less stable coalitions) always adopt policies that maximize the welfare of the median voter.

ii. **Consequently, in equilibrium, only a very narrow range of policy outcomes will be observed**, and these will change systematically as the median voter's perception of his or her own interests change through time.



D. With these two theories in mind, consider figure 2

E. A political scientist that found the chaos theorems convincing, would conclude (and therefore predict) that little in general can be said about majoritarian politics. Each majority choice will be followed by some other, and eventually all policies might be observed.

i. He or she might well examine the "series 1" (the number of Tory seats in Commons) and conclude that much is random in UK politics--as predicted!

ii. In this case, the political scientist becomes, like the historian, one who may say something about individual links in the chaotic path, but may have little to say that extends beyond the case at hand.

iii. [Majoritarian uncertainty can be reduced a bit by adding agenda rules, stopping rules, or assuming that an agenda setter exists: the king or the leader of the incumbent majority. The middle ground (somewhat predictable) is not necessarily empty among those who take Arrow and McKelvey seriously.] .

F. A political scientist who finds the median voter theorem convincing will expect everything to be predictable, or at least as predictable as rational choice can be.

i. He or she might look at "series 2" (the proportion of UK votes going to Tories) and conclude that, sure enough, partisan competition in the UK yields results that look very much like those predicted by median voter models.

ii. In this case, the main research agenda would be to identify the interests and constraints of the median voter because these ultimately determine public policy.

G. One of these constraints may be informational--as implied at the beginning of the lecture. If everything about the future can not be known beforehand, then the median voter's decisions will reflect her uncertainty and perhaps ignorance about the future.

i. (Informational problems allow a wide range of "intermediate" solutions to emerge. Information problems imply that voter errors, unanticipated innovations, and surprises from mother nature will add a random component to median voter policy choices, and therefore to politics in general.)

ii. (Voter ignorance also gives rise to a wide range of informational strategies that may be exploited by elected representatives, bureaucrats, interest groups, and so forth. In this case, the median voter may not get exactly what he or she wants.)

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