

Using Game Theory in a Way Economists Don't: A Proposal for a Global Research Program in the Study of War

Part I: The Core Theoretical Model

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Part II: A Research Agenda

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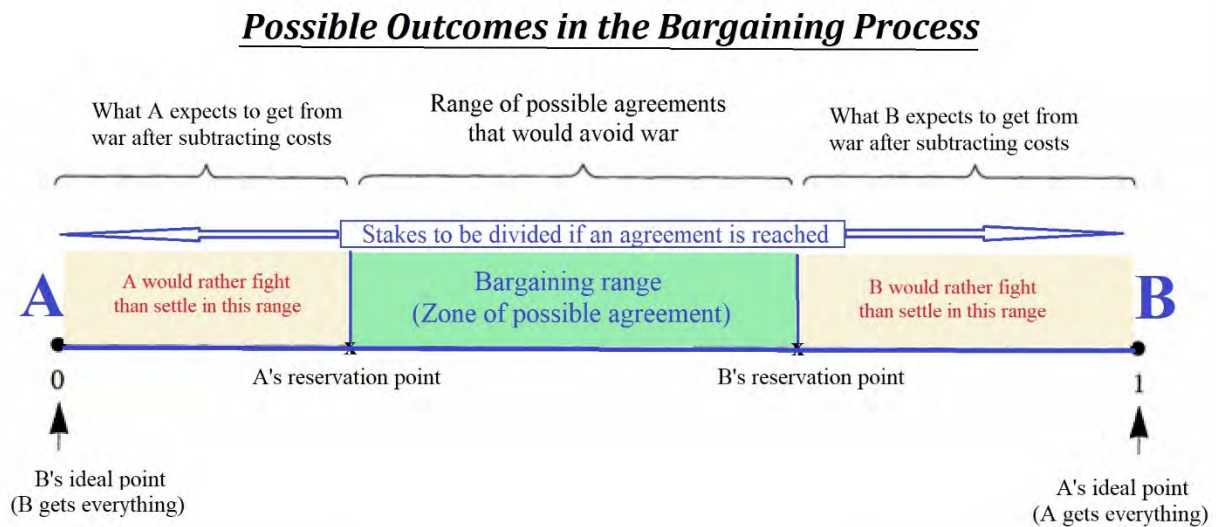
Part III: Collaboration, Diversity, Progress

FOUR AUTHORS - W&M COLLABORATIVE PROJECT

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GAME THEORY AND WAR

(based on Fearon 1995, p. 387)



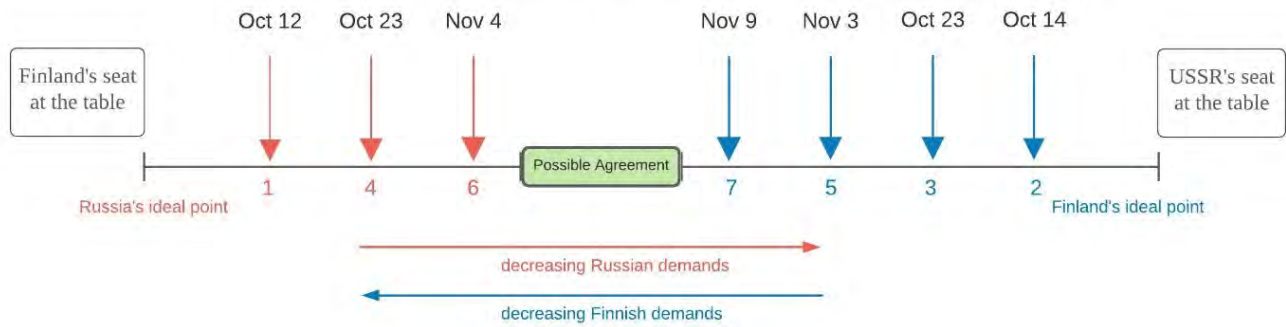
RUSSIAN - FINNISH BARGAINING (1939)



RUSSIAN AND FINNISH BARGAINING POSITIONS (1939)



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CAN WAR BE RATIONAL?

Can rational, utility maximizing states rationally fight a war? They can, and possibly will, if they cannot come up with any settlements that are stable, that will last, that won't become meaningless or start processes that cause other problems that don't yet exist, and so on. In this type of situation, states are said to face a "commitment problem." A commitment problem is any worry about the future that scuttles cooperation in the present.

War is always an inefficiency that states would prefer to avoid. But a rational state will go to war if the value of living with the status quo is low enough and no reliable settlement is available.

Key points.

1. A commitment problem is not a cause of war. War is a commitment problem. (more below) When does the commitment problem end? When the war does. When the peace treaty is signed.
2. The causes of war can be divided into two sets of factors: those that cause commitment problems, and those that make the status quo intolerable when an agreement cannot be reached because of a commitment problem.

#1 is Powell's 2006 clarification of Fearon's 1995 model. Thus, the Fearon-Powell model.

#2 The commitment problem, and then the intolerability of the status quo, needs to afflict only one side to bring about war. Finland had a commitment problem; Russia did not. Stalin found the status quo intolerable; Finland did not (and was surprised to learn that Russia did).

To anticipate our second war: The commitment problem in the American Civil War took hold sometime between 1850 and 1860. Then, when Lincoln was elected, the status quo was intolerable for the South.; when the South seceded, the status quo was intolerable for Abraham Lincoln.

To repeat: The reason no one has seen any of this? In a very popular model developed 25 years ago? No one has successfully tested the model. Almost all tests are statistical, too, and statistical tests cannot tell you anything, as was pointed out before almost all of these tests were carried out ("War is In the Error Term," 1999).

Final reminder: We need to answer this question: How does one identify the onset of a commitment problem? When you see a war, you know there is a commitment problem. But peace does not mean there is no commitment problem. What we all need to be thinking about is what observable evidence indicates the existence of a commitment problem (which itself cannot be observed).

To apply the bargaining model, we are using Newton's *Principia* from 1687. This work consisted of three books and introduced Newton's Laws and the Law of Gravitation, as well as certain methodological rules. In the *Principia*, Newton's unrelenting focus was the law of gravitation. Newton was focused on the effects on celestial motion due to the force of gravity. In this study, we are focused on the effects on state interaction of the workings of strategic rationality.

	Newton	IR
observable world to be explained	celestial motion	international politics
single animating principle that will do the explaining	force due to gravity	workings of strategic rationality

The key to making theoretical progress is to stick with that single animating principle. Newton succeeded in explaining the motion of the planets and planetary moons because the force due to gravity is, as a matter of fact, what causes the motions we observe. Our bargaining-theoretical approach will succeed in explaining the international politics leading to war if the force due to strategic rationality is, as a matter of fact, what causes most of the wars we observe.

The law of gravitation does not explain all planetary motion. Indeed, Mercury was so disobedient that physics, which has a deep roster, finally had to call up Einstein to make the relativistic correction that put Mercury back in its place. From the perspective of big-picture philosophy of science (e.g., Thomas Kuhn), Einstein “overthrew” Newton and worked in a world incommensurable with that of classical physics. But (as we shall see) Einstein was actually using the same method Newton used—“successive approximation”—to resolve the problem in explaining Mercury’s orbit. We’ll be using the same method to apply and test the Fearon-Powell model, rooted in the axioms of rational choice, in the study of war.

WHAT DOES IT MEAN TO HAVE A THEORY?

Newton's work provides a good entry point for thinking about theory, what it is, and how it is used.

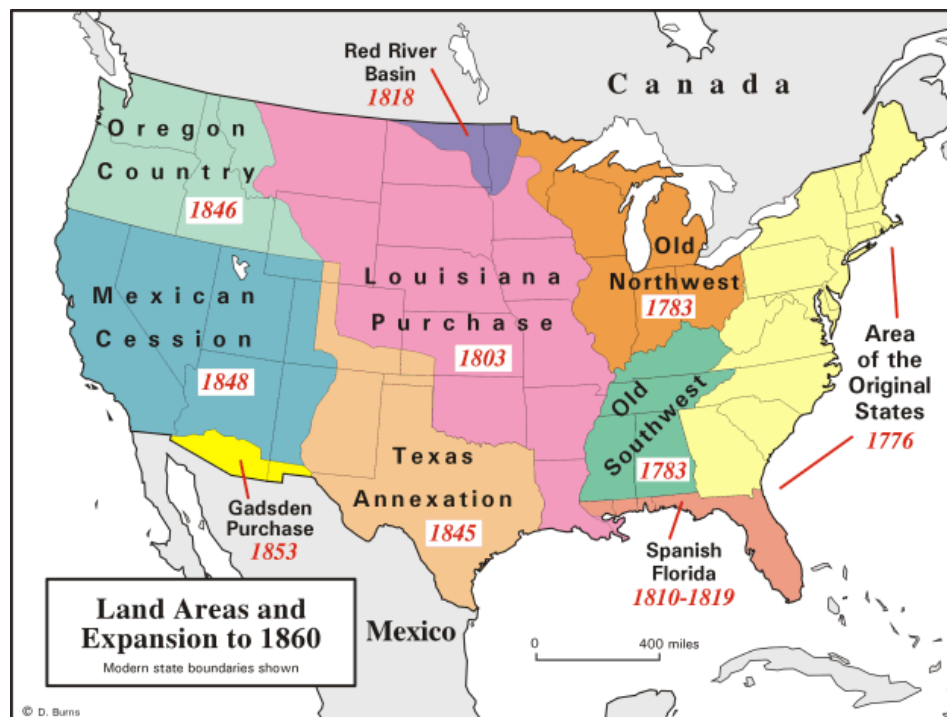
Before Newton, everyone viewed planetary orbits in terms of the ellipses identified by Kepler. There was no theory—an orbit was just an ellipse. In Newton's account, that ellipse became a path determined by the force of gravity. This is a theoretical claim because it is a characterization of orbits that reveals where they come from. An orbit so characterized is a “phenomenon” (something explained by theory). This is the big step forward—and it is truly big--that Newton makes.

War has long been defined in IR as large-scale violence between the military forces of different states. This is just a definition, like Kepler's ellipse. Bargaining theory says that this violence is a commitment problem. This characterization of war tells you something about where wars come from. To identify war as a “commitment problem” is to make the first step in bringing theory to bear on the question of war causation.

American Civil War

The theory can become almost intuitive with practice. Let's consider the background to the American Civil War. Below is a map of American westward expansion. The territory was fixed and stable until 1845. The Mexican-American War opened up the entire continent, making it much harder for North and South to locate settlements they could trust. After 1845, the only such agreement was the Compromise of 1850.

From this analysis, it appears that civil war was almost impossible to avoid. Lincoln's election was the occasion to start the war, but had Douglas been elected, there almost certainly would have been another occasion just down the road. Very likely it would have been a vote in the Senate over the admission of a northern state. The balance of power in the Senate was shifting to the North and, at some point, Congress would take up a vote prohibiting the extension of slavery to new territories. With a commitment problem in place, civil war would start with any event that caused the slave states to conclude such a prohibition was simply a matter of time. The election of Lincoln was such a cause; a further step in the shifting balance of power between North and South could have played the same role. This is a story anyone can tell, of course. But here, it's a counterfactual grounded in a scientific theory.



The program

There is almost no explanatory knowledge in social science, and progressive research programs do not exist. The two wars so far sketched out, if they are correct, are the first two steps in a progressive research program. If they have been sketched out here incorrectly, they will be corrected, at which point they become the first two steps in a progressive research program. These narratives will not be reversed or changed with the passage of time, just as explanations of the Moon's orbit will not be. Such accounts have never existed in IR because we have always lacked the necessary theory.

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