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The Paradox of Path Dependence: The Problem of Teleology in International Theory

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The study of path dependence in political science—the idea that institutional life is often characterized by positive feedback processes that make change costly—has become important in understanding how institutions can be so “sticky” and resistant to modification (Pierson 2000). The concept is based in a rather paradoxical set of circumstances: Increasing returns in complex systems make it nearly impossible to predict which paths institutions will take, and when certain exogenous events will cause fundamental changes in such paths. Yet, path dependence itself is an explanation for why institutions can remain quite stable and predictable. Path dependence, then, is both an unpredictable and a predictable social process. How can we possibly predict the likely future of institutions when important interventions that may change positive feedback processes are almost entirely random?[1]

Teleological theories of history—which have been historically prominent in western political theory—are problematized by the idea of path dependence. These theories argue that history unfolds towards a particular *telos*, or final cause/purpose (Rosenblueth, Wiener, and Bigelow 1943). History, in this account, is not a set of circumstances that agents have to deal with. Rather, history is the process whereby agents move toward their ultimate end. Whether it's Kant's vision of a federated republic of states, Marx's theory of the evolution of modes of production, or modern theories of global integration (e.g. Alexander Wendt's work on the possibilities of a “world state”), path dependence itself makes teleology a flawed methodology in theorizing about political institutions.

The remainder of this article is divided into three sections. The first section details, briefly, what is meant by the concept “path dependency” and how it is used in political science. Next, I show how path dependence makes prediction difficult, even though the term itself implies a sort of stability. The third section then applies the argument in critique of teleological theories in international political theory, focusing specifically on recent debates about the inevitability of a “world state” by Alexander Wendt. It is my contention that such theories are fundamentally flawed because they fail to recognize that even though institutions such as “anarchy”[2] may be on determined paths towards integration, the very complexity of international life makes it nearly impossible to predict future changes/continuations.[3]

Institutions and Path Dependence: Positive Feedback and Increasing Returns

What do we mean when we say “path dependence?” As Paul Pierson (2000) rightly notes, the concept has been used often, and haphazardly, in political science (p. 251). The most important defining feature of path dependence is the idea of positive feedback, and increasing returns, which have been controversial subjects since their introduction into economics during the 1980s. Though other scholars, most notably William Sewell (1996), have suggested that path dependence is simply the idea that prior historical events in a sequence have an impact on future events (pp. 262-263), the focus on increasing returns and positive feedback—following Pierson—highlights best the contribution that path dependent arguments hold for political science.

Most generally, path dependence is any social process that exhibits increasing returns (Pierson 2000, p. 252). The process of increasing returns, or positive feedback, is characterized by the idea that decisions are narrowed by previous random processes that alter the costs/benefits of particular choices, and can be self-reinforcing. Because of

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this process of increasing returns, small events—depending on their sequencing—can lead to distinct, and often very stable, “paths” that make deviation difficult.

One prominent example, which was first used by the economist W. Brian Arthur, is the example of a QWERTY keyboard. In the days of typewriters, the QWERTY keyboard was adopted for its inefficiency, and the fact that it slowed typists down—if typists typed too fast, they could jam the typewriter. However, in the age of digital word processing, we still use a QWERTY keyboard, despite the fact that other keyboard setups are more efficient. A theory of increasing returns helps to explain why we have remained on such a path. Because of particularly sequenced events, and existing technologies when the keyboard was developed, subsequent events/decisions were affected creating a situation of positive feedback: as more people learn to use, and teach the usage of, the keyboard, the costs of switching to another format are prohibitively high.[4]

Political scientists, especially historical institutionalists in comparative politics, have utilized this idea of increasing returns, and its implications for path dependence, to understand how it is that institutions can remain so resistant to change over time. There are certain sequenced decision events in the development of institutions that cause self-reinforcing lock-ins that make change costly.[5] The interesting part of path dependence theory is that there are two distinct arguments that fit together, though seem to point in different directions. The first is that institutional change is often rare because of the processes of positive feedback and lock-in. On the other hand, random and unexpected events, provided they are sequenced correctly, can have enormous consequences on future decisions, transforming institutions altogether. Thus, path dependence demonstrates why it is that change is often resistant, while also implying that predicting stability with any certainty is impossible because of the power of random events. In political science, such events are often termed “exogenous shocks,” referring to the ability of unforeseen events to alter previously stable institutional arrangements (Thelen and Steinmo 1992). What, then, does path dependence, and its basis in increasing returns and positive feedback, tell us about the nature of prediction?

Path Dependence, Complexity and the Nature of Prediction

Path dependence has an immediate bearing on the question of predictability in the social sciences. If we assume that paths are created or altered through events that are random, then we must come to terms with the fact that even though paths may be stable, we can never be certain that an exogenous shock will not enter and disrupt the system itself, nor can we be certain what such a shock will be. There are several reasons that social systems muddy our ability to predict institutional change/continuity in light of path dependence theory. Two of these factors are: (1) Humans are endowed with free will; (2) Social kinds are so complex that our ability to control for multitudinous variables is almost impossible; these issues make it very difficult to offer predictions about the paths of institutional development. If we cannot adequately predict the impact of these factors on institutions, then how can we assess whether a particular institution will remain on a particular path, when it might diverge, or what the future of the institution may look like? Let us deal with these two complications in turn.

Human agency complicates our ability to extend analyses of path dependence—human beings are creative creatures, with a certain amount of free will, and this is one important factor that complicates international politics. In fact, Max Weber (1996) has pointed out that social action is the product of four distinct orientations: instrumental rationality (*Zweckrationalität*); value rationality (*Wertrationalität*); “affectual — especially emotional, through given affects and states of feeling”; and “traditional, through the habituation of long practice” (p. 12). Of these four, two of them (value rationality and affectual action) make prediction very difficult. In terms of value rationality—what we would typically label the purview of political culture and sociological institutionalism—agents’ actions are “bounded” by their shared normative and cultural understandings.[6] However, such bounds do not tell us much about actual action; they only tell us about the possibilities available to actors. For example, as Elkins and Simeon note, political culture may influence agents’ assumptions about the world, though these are permissive rather than determinative (Elkins and Simeon 1979). Although rarely dealt with in political science, emotional action is by its very nature “irrational,” and thus unpredictable.[7] Historical context also matters a great deal, and thus limits both our explanatory and predictive abilities to temporal and spatial specificities. In sum, even if we were to grant that predictions could be made where individuals are completely instrumental or habitual[8], our models would be missing quite a bit of what social life is actually about.

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Furthermore, political scientists can rarely control for a multitude of variables, much less provide predictions based on variables that are difficult to actually observe. Kuran (1991), for example, notes that predicting revolution is incredibly difficult due to the fact that primary variables, including *preference falsifications*, *revolutionary thresholds*, etc. are incredibly difficult to measure before the actual onset of the revolution. He argues, in the context of the Eastern European revolutions of 1989: “the unobservability of private preferences and revolutionary thresholds concealed the latent bandwagons in formation and also made it difficult to appreciate the significance of events that were pushing these into motion” (p. 43). In other words, unlike natural scientists that conduct experiments, political scientists must largely rely on observational data and add an extra layer of intricacy in controlling for potentially important omitted variables.

In terms of path dependence more specifically, the irony of the term is clear. Even though through its use we are able to explain the continuation of particular institutional forms, we cannot predict with certainty their continuation into the future, or establish such forms as either being universal or evolving toward some specific end goal. In fact, Wendt’s (2003) argument about a world state—which is examined in more detail below—appeals precisely to path dependence, and its relationship to theories of positive feedback, to make his teleological argument (p. 499). Social life, and thus institutional life, is complex. Agency, history, and the practicalities of social science make it difficult for us to extend path dependent arguments into the future. But, what does this imply for teleology in international political theory?

Teleology, the World State and the Foundations of History: A Critique

Questions about the direction of history have been a defining attribute of international political theory. Kant theorized about the possibility of a perpetual peace, fueled by the global spread of republicanism and the moral importance of world peace. Hegel argued, and E.H. Carr followed, in making the assertion that conflict would always characterize an international system of sovereigns. And, most famously, Marx asserted that all roads lead to a communist mode of production, which eliminates commodities exchange as the fundamental basis of political economy.[9] This project of theory creation, teleology, continues into contemporary political thought, with Wendt’s (2003) contention that a world state is inevitable. I argue, as others have, that a world state is, in fact, not an inevitability.[10] However, such critiques have usually centered their attention on metatheoretical issues, rather than framing their discussions in terms of path dependence and complexity.

Wendt’s argument is part of his broader theory of international politics. Contra political realism’s view of the anarchical international system as inducing a singular logic of competition, Wendt has argued that anarchy can take on different meanings based on the nature of collective identity, and the social relationships between actors. In his *Social Theory of International Politics*, he describes three different logics of anarchy: a Hobbesian “war of all against all,” a Lockean system of rivals, and a Kantian system of friends. In later writings, Wendt takes this typology farther by arguing not only that there is actually another stage in international history—the world state—which is inevitable. This inevitability is teleological, argues Wendt, and there are two reasons that we should take such a teleological account of the world state seriously. First, the same struggle to assert recognition of basic rights that characterizes why individuals form collective arrangements (Honneth 1996) is also true of states. Therefore, states, in their desire for recognition within a community, will eventually create an international institutional structure that preserves international collective identity.[11] Second, as technology makes the destructive power of weapons more catastrophic, the monopolization of the legitimate use of force into the hands of a single world sovereign will become a necessity (Wendt 2003, pp. 491-495). The social institution of anarchy, an idea expounded by Wendt in an earlier work (Wendt 1992), is an example of a political order characterized by path dependence. Wendt argues this explicitly by making the claim that teleological processes are characterized by positive feedback, and the self-organization of systems. Once these feedback processes are mixed with macro-level structures, we can begin to develop teleological theories: “The feature of self-organizing systems that raises the question is their end-directedness, which is generated by the interaction of self-organization with macro-level boundary conditions exercising downward causation on a system’s parts” (Wendt 2003, p. 499).

What then of exogenous shocks, or other variables, that effect positive feedback processes? This is not adequately dealt with in Wendt’s article, and is the basis for critiques focused on questions of agency (Shannon 2005). As we

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have seen above, path dependence is, by its nature as the product of random processes within complex systems, difficult to extrapolate into the future. The biggest blow to teleological theories, including Wendt's, is that the sustenance of organizational forms can only be *explained* ex post, and not predicted ex ante. Human agency, history, and our own limitations as social scientists preclude the definitiveness of such arguments. Marx could never have envisioned the impact information technology would have on his arguments about machinery and innovation, just as Kant could not have predicted the theoretical and practical applications of republican governance in the modern world. The problem is not with the internal soundness of the theory. Rather, the problem is that social life, and institutions such as anarchy are complex, and random events can fundamentally alter the trajectories of development predicted in teleological models.

Conclusion

In sum, path dependence seems to be paradoxical. If it explains stability, how can we still be blind to the future of institutional change? As I have argued, this is because though path dependence can tell us about why institutions have remained stable, the complexity of social life—e.g. the nature of agency, history, and social science methods—make it nearly impossible to predict random events that can change the paths of institutional development. Theorists like Wendt, who have, interestingly, used the literature on path dependence and positive feedback processes to refine teleology as a scientific enterprise have neglected the fact that path dependence actually leads us to an opposite conclusion: teleology is an impossible endeavor. In critiquing teleology as employed by political theorists, I hope to have shown that ideas such as Wendt's "world state inevitability" are fundamentally flawed because of this very issue.

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[1] It should be noted that Kathleen Thelen makes an important argument about the gradual evolution of institutions. See: Thelen 2003.

[2] On international anarchy as a social institution, see: Bull 1978; Wendt 1992.

[3] On complexity in international politics, see: Rosenau 2003.

[4] For a fine introduction to Arthur's work on increasing returns, see: Waldrop 1993. Also see Arthur's important early attempt to theorize increasing returns and path dependence in relation to technological innovation: Arthur 1989.

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[5] For a review of this literature, see: Hall and Taylor 1996.

[6] See also work within the decision-making literature in organization theory about bounded rationality: Simon 1979.

[7] Although, some work does exist in this vein. For a taste, see: Neuman, et al 2007.

[8] It is difficult to make this assumption, however, because even rational choice models rely on assumptions about agent preferences, which sociological institutionalism has argued can only be explained through historically grounded approaches of interest formation. See, for an argument of this sort in international relations theory: Finnemore 1996.

[9] See, respectively: Kant 1991; Hegel 1979; Carr 2001; Marx 1992.

[10] See: Shannon 2005. The argument made by Shannon is that Wendt's inattention to agency, at the expense of heavy structure, is a violation of constructivism's ontological commitment to "mutual constitution."

[11] On collective identity in international relations theory, see: Barnett and Adler 1996; Wendt 1999.

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