

Down the Wrong Path: Path Dependence, Increasing Returns, and Historical Institutionalism

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Abstract

Does the concept of path dependence provide a plausible theoretical framework for historical institutionalism? Practitioners of historical institutionalism have recently sought to formalize path dependence, because otherwise 'path dependence' would merely signify or advance the unsurprising claim that history matters. Formalization links production of an institutional path through a critical juncture with contingent outcomes to the self-reproduction of that path through increasing returns. However this formalization logically conflicts with the causal logics historical institutionalists advance. Path dependence operates at a system level, while historical institutionalism operates at a unit level. Casting path dependence in less formal terms as an approach vitiates the utility of path dependence by housing incommensurable mechanisms under one conceptual roof. It would be better to shift attention back to actual mechanisms for both change and stasis.

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Introduction

Two interesting issues intersect at the heart of current comparative historical and institutional analysis. While everyone agrees that history matters, no one agrees *how* history matters. Similarly, while everyone agrees that institutions matter and sometimes exhibit puzzling inefficiencies, no one agrees quite how institutions matter or why those inefficiencies persist. One currently popular effort to sort out these issues is an effort to formalize “path dependence” (PD hereafter) arguments to explain the self-reinforcing persistence of institutional structures. Three related features of what I will call the Formal PD argument account for its popularity. First, a formal and precise definition for PD prevents loosely defined PD from collapsing into unsystematic arguments that the past affects the future (Mahoney 2000, 507-508, 510; 2001a, 4 and fn. 2).

PD’s second attraction flows precisely from this apparent regularization and grounding of the processes to which historical institutionalism attends. Formal PD appears to provide one master concept for the behaviors and outcomes historical institutionalists study (Hall 2003, xx). Because historical institutionalism studies mid-range phenomena, it is theoretically eclectic, as a decade of assessments of the approach have noted (Steinmo, Thelen and Longstreth, 1992; Hall and Taylor 1996; Pierson and Skocpol 2000). Formal PD appears to let historical institutionalists generate a range of propositions about institutional (in)stability, and, equally important, to unify otherwise disparate causal mechanisms under one theoretical construct. Formal PD identifies a specific sequence of events in which the mechanisms that produce a given set of institutions are replaced by different mechanisms that reproduce those institutions. Historical institutionalists find this argument congenial because formal PD asserts that institutional reproduction is a function of the ways that those successor institutional mechanisms shape actors’ interests. Institutions are thus logically prior to individual actors. Without master concepts like this, historical institutionalism would otherwise largely be an empirical intellectual enterprise. It would thus remain vulnerable to criticism from rational choice theorists, who have constructed a substantial set of theoretical claims based on the proposition that individuals and their interests are logically prior to institutions.

Third, formalized PD is attractive because it permits a retrospective assimilation of what proponents of formal PD see as early – and often unselfconscious – efforts at PD analyses. Formal PD thus allows current historical

institutionalist accounts to find in those older literatures mechanisms that are similar to the ones on which historical institutionalism focuses. This lends credibility both to the idea of a formal PD and to historical institutionalism. Moreover, despite the usual academic hedging, formalizers are wont to make expansive claims that PD is a pervasive phenomenon. Thus, Pierson (2000a, 251, and 2000b, 73) argues that “path dependence arguments are...appropriate in substantial areas of political life,” and are “extremely widespread,” while Mahoney (2001b, 111) notes that “recent methodological writings...have emphasized the importance of path dependence for political and social analysis,” citing himself (2000), Pierson (2000a), and Thelen (1999).¹

However, formalized PD does not provide a stable base for historical institutionalism. Formalizing PD creates two problems. First, formal PD must select causal mechanisms that are inconsistent with historical institutionalism. Formalizing PD emphasizes mechanisms that make institutions dependent variables, rather than causally prior independent variables. Second, those mechanisms are heterogeneous: increasing returns, decreasing returns and constant returns mechanisms can all generate PD’s characteristic sequence of events, namely a critical juncture followed by a period of stasis. This is because PD’s signature event sequence – outcomes produced by one causal mechanism yet sustained by another – is logically distinct from the mechanisms themselves. But a simple sequence of events is not a mechanism per se. Blurring the difference between events and mechanisms vitiates the conceptual utility of PD.

Perhaps there is an ideal stopping point on the road from PD as a synonym for ‘history matters’ to a fully formal PD? Lately, both Thelen and Pierson seem to suggest this strategy. Thelen (2003, 209, 212-213) argues for relaxing formal PD’s analytic emphasis on different mechanisms for institutional generation and reproduction, and for reducing its assertions of contingency during institutional generation and determinacy during reproduction. Instead she emphasizes a search for specific mechanisms. At two public fora in 2003, Pierson (2003b) similarly argued that PD is an ‘approach’ and not a theory. While this move leaves institutions prior to actors, it still has negative consequences. First, if PD ever any analytic utility – and even I believe that it does – blurring the distinction between path production and path reproduction eliminates that utility. Blurring this distinction simply highlights the degree to which PD is a re-labeling of the older,

¹ However Mahoney also sometimes says that PD is relatively rare (2000, 508), as do a number of other, less frequently cited authors, like Goldstone (1998) and Aminzade (1992). This inconsistency is precisely the problem with PD as an ‘approach.’

diverse mechanisms for social and political change that Thelen re-emphasizes. Why not simply go straight to the extant mechanisms themselves and just dump PD?

Second, Thelen's move risks blurring the distinction between institutions and organizations, because while organizations can be converted to new uses, institutions per se cannot. Third, what distinguishes an approach from a theory (Ostrom 1991, 243) is that approaches specify general mechanisms, while theories elucidate specific mechanisms. Thus she notes that a rational choice approach encompasses work based on methodological individualism, individual level comparisons of relative cost, and strategic action. These mechanisms are mutually consistent. In contrast, while PD as an approach could in principle point to a whole collection of self-reinforcing mechanisms, many of these mechanisms are incommensurable.

The current move to formalize PD is thus problematic. It contains a large antinomy: either it must incoherently house incommensurable mechanisms under one theoretical roof, or, by trying to present a logically coherent set of mechanisms, it must select mechanisms that are internally inconsistent with historical institutionalism.

This article thus has four sections. The first section shows why the effort to formalize PD is a good, if flawed effort, and why we should care about the flaws in this effort. The second section lays out a fully formal version of PD, based on contingent institutional origins, increasing returns, and punctuated equilibrium. The third section discusses the problems with each of these features, showing that formal PD groups incommensurable mechanisms together. The conclusion discusses the implications of this dismissal of formal PD. It emphasizes that the purpose of this article is not to argue that all work that has retrospectively or self-consciously been labeled "path dependent" is wrong, that there are no real world instances of path dependence, or that in no instances are institutions causally prior. Rather, I argue that collecting these disparate studies and mechanisms under a common label obscures the actual causal mechanisms present in each study. Path dependence in its current usage thus obscures more than it reveals.

Formalization and the difference between events and mechanisms

Normal science proceeds in part by aggregating what were thought to be disparate phenomena and causal mechanisms under one master mechanism. If an informal version of PD were able to aggregate a set of compatible causal mechanisms under one conceptual label, this would be a positive step. It would remove any need to move to the more formal version of PD presented later in this paper. An informal version of PD might focus on the specific sequence of events

that Arthur Stinchcombe (1968) first elaborated: a historical cause that creates a process (or path) whose self-replication has a different underlying cause. The utility of both loose and formal PD is precisely this differentiation between mechanisms of production and mechanisms of reproduction. But without specific mechanisms, this distinction only identifies a sequence of events. Turning this description into a causal argument requires specific mechanisms.

Stinchcombe (1968, 9-10), echoing Max Weber, provided one such mechanism in his original argument, noting that "[i]nstitutions are concentrations of power in the service of some value. A correlation between power and commitment to a certain value is thus the defining characteristic of an institution and determines its causal impact on social life." He then specified four behaviors linking the use of power in the socialization of individuals entering an institution. Stinchcombe thus rooted the sequence of events that produced institutional persistence in the use of power to maintain power, which is a causal mechanism that is distinct from the sequence of events it explains.

Unless specific mechanisms can be abstracted from a given sequence of events, that description of events does not constitute a causal argument. Kathleen Thelen notes this point even as she multiplies the list of potential mechanisms she houses under the PD label (Thelen 1999); so too does Pierson (2000b, 76). The strength of current efforts at formalization is that they recognize and try to overcome this problem by specifying several underlying mechanisms for self-reinforcing sequences. But this effort pastes a common label over similar sequences of events generated by dissimilar mechanisms, subordinating incommensurable causal mechanisms to PD's structure of events. A crude analogy illustrates the problem that emerges from the inattention to specific mechanisms and a corresponding focus on an event sequence.

Suppose someone observed that singular large objects often turned into multiple smaller objects over time in an apparently irreversible process. Different mechanisms, like erosion, freeze/thaw cycles, rusting, exposure to UV light, or mechanical abrasion by other solids could produce this sequence of events. Antecedent conditions strongly affected the rate of particle production and the ultimate number of particles, and in some cases unexpected exogenous shocks started the process. This observer might then attempt to unify disparate mechanisms under this specific event sequence, and advance a 'theory' or approach called *granulation* or *particulation*. The problems with this effort are obvious. First, it is not at all clear what oxidation, erosion, etc., have in common aside from the production of particles. While this may not be a problem for those who wish only to advance functional arguments, it generates an enormous problem of equifinality in

the causal analysis of granulation. Second, one of the proposed mechanisms does not always reliably produce granulation. Oxidation (rusting) breaks iron down into particles, but it only produces a patina on aluminum and copper. Similarly, oxidation has nothing in common with mechanical erosion. So a focus only on an event sequence will cause analysts to miss the operation of the same mechanism in the context of a different sequence of events, and the operation of different mechanisms in the same sequence of events. Third, several processes might be at work simultaneously, as with a piece of iron left at the beach. Explaining the presence of particles (the observed outcome) by saying that “granulation” has occurred will conceal the actual causal mechanisms.

This analogy overstates the problems in formal PD. But because PD conflates disparate causal mechanisms, PD analysts do mislabel some phenomena as path dependent; that is, they group erosion and oxidation processes together. We can see this in the way that PD formalizers have herded any analysis in which institutions or temporality matters into the PD corral. Thus PD formalizers present the analyses of Alexander Gerschenkron (1962), Thomas Ertman (1997), and Barrington Moore (1966) as examples of PD/historical institutionalism, because temporality and institutions feature in all of these.² Yet these analyses fit neither the original definitions of PD nor of historical institutionalism. Although PD arguments are necessarily both temporal in nature and focused on institutions, not all temporal or institutional phenomena are path dependent. PD arguments pertain only to the class of events that involve a critical juncture with contingent outcomes, and in which the mechanisms that produce the critical juncture can be differentiated from the mechanisms that sustain that outcome. Temporality is thus an important part of PD arguments, because production necessarily precedes reproduction. But while all PD arguments necessarily are temporal, not all temporal arguments are path dependent. Similarly, while all PD arguments are necessarily institutional, not all institutional arguments are path dependent.

Consider Gerschenkron’s (1962) classic analysis of late industrialization. He presents an analysis in which temporality and institutions obviously matter. Because the critical juncture at the time industrialization commences generates new institutional forms, Gerschenkron’s argument appears to have a PD structure. But Gerschenkron’s argument does not strictly speaking have a self-reinforcing mechanism distinct from the original *historic* cause. The mechanism of production –

relative economic backwardness – is a *constant* cause, not a historic cause, for the institutional structures Gerschenkron observes. Gerschenkron (1962, 21-22; 1977, 14) argues, and the historical record suggests, that once a country has caught up economically, the institutional arrangements he noted are likely to wither away, because Gerschenkron sees them as functional substitutes for the arrangements found in earlier industrializers. In the United States, Germany, and Japan, catch-up led to waning bank and state influence in industry. Conversely, when the losers of both World Wars experienced conditions of capital shortage and backwardness, the salience of banks and the state in capital markets re-emerged (Ziegler 1997, 144-145; Johnson, 1982). Gerschenkron’s original argument focuses on timing and institutions, but he does not present a PD logic.

PD formalizers have also retrospectively laid claim to Barrington Moore’s (1966) and Gregory Luebbert’s (1991) temporally based arguments about how different patterns of class conflict translated into regime outcomes. But doing so runs against historical institutionalism’s insistence that it studies mid-range phenomena – neither classes on the one hand nor individuals on the other – and that it does so in order to explain variations in policy choice and outcomes, not regimes.³ It also runs against historical institutionalism’s insistence that preferences are not given but rather arise from institutional contexts. Both Moore and Luebbert assume actors with prior interests who pursue those interests by reshaping institutional structures, among other things. Lumping Moore’s, Luebbert’s, and Gerschenkron’s analyses together with historical institutionalist analyses co-locates analyses that share a similar event structure but that specify different underlying causal mechanisms understood through different ontologies. Thus PD as an *approach* suffers from the same problems as *granulation*. This is why a fully formal PD is necessary.

Defining Formal PD

A fully formalized PD might link commensurable causal mechanism to a specific sequence of events, thus overcoming the problems identified above for PD as an approach. And, as noted above, this was initially the goal of people writing on PD. In this article, formal PD refers to a synthesis of the models for path dependence and institutional change advanced by Paul Pierson (2000a, 2000b, 2003), James

² Thelen (2003, 209) claims that “some of the major works in comparative historical analysis can be read as illustrations of path dependence in social and political development”; Mahoney (2001a, 2001b) similarly lays claim to Luebbert and Moore; Pierson (2000b, 82, 84, 86) claims Gerschenkron, Ertman, and Luebbert.

³ Thanks to XX for pointing this out to me; this paragraph draws on his “SUPPLY TITLE”. The introductory essay in Sven Steinmo and Kathleen Thelen (1992) provides the classic statement on the domain of historical institutionalism; Jonas Pontusson (1995) provides a strong criticism of this approach.

Mahoney (2000, 2001a, 2001b) and Kathleen Thelen (1999, 2000, 2003).⁴ Is this synthetic argument an injustice to these and many other authors, including Goldstone (1998), Aminzade (1992) and the Colliers (1991)? The first three authors have created a dense inter-textual web of language and citation that justifies lumping them together.⁵ Other authors often mention them in the same breath (Hall, 2003, xx). The Colliers' classic argument (1991, 27-39) can be subsumed under Mahoney's model, as the structures are almost identical. While Goldstone's (1998, 834, 843) argument stresses the limited applicability of PD arguments, his conceptualization of PD is based on Brian Arthur's (Arthur, et al., 1983) Polya urn experiment, which comports with the increasing returns based formalization laid out below.

Aminzade's (1992) description of PD contains a non-exhaustive list of reinforcement mechanisms rather than just increasing returns mechanisms and thus falls at best into the 'approach' category.

Moreover, these authors claim to put forward a coherent, rigorous model, whose propositions mesh with the synthetic version I lay out. Mahoney (2001b, 137, and similarly, 2001a, 4-10 and 2001b, 111) is completely clear that while "path dependence was [once] a poorly elaborated concept... [t]he work of Ruth Berins Collier and David Collier (1991), Kathleen Thelen (1999), and Paul Pierson (2000a) has served to develop this concept into a coherent set of arguments about social and political change." Kathleen Thelen (2003, 209) similarly argues that "Ongoing theoretical work centering around the concept of path dependence by Mahoney [2000], Pierson [2000a] and others has lent greater precision to previous formulations based on the dual notions of 'critical junctures' and 'historical trajectories'," although much of her article is a retreat from PD arguments, including Thelen (1999). Pierson (2000b, 74, and similarly in 2003a, 8) says "we are beginning to construct rather powerful theory about path dependent processes – about the kinds of settings that are more or less prone to positive feedback," citing himself (2000a), Mahoney (2000) and Thelen (1999) as "more rigorous" examples of these path dependence arguments. Pierson (2003a, 71, also 73) also argues that

⁴ None of the authors I characterize as formalizers are chosen in an effort to personalize this debate; I single them out because of the strength of their arguments and their ambition to provide a more rigorous meaning for PD. This is a laudable effort.

⁵ For example, the 97 footnotes in Pierson (2000b) contain 39 references to himself, Mahoney, Thelen, the Colliers, and Stinchcombe; Thelen's (2003) 41 footnotes invoke these five 18 times, supplementing 28 textual citations; the 16 footnotes in Mahoney's (2001a) theoretical discussion of PD contain 11 references to these five, plus eight references to Douglass North, Paul David, W. Brian Arthur, Barrington Moore, and Gregory Luebbert.

"path dependent sequences are very prevalent in political life... [and] grounded in claims about self-reinforcing or path dependent processes."

The synthetic model of formal PD I derive from the authors above stands on three logically connected legs:

- First, it *assumes* that small contingent causes at the beginning of a path can have large and long-term consequences.
- Second, it *argues* that increasing returns to political and social institutions explain actors' reticence about changing those institutions.
- Third, it *analogizes* between PD's critical junctures and evolutionary theory's idea of punctuated equilibrium.

Just as with a stool, all three legs are logically necessary parts of a systematic PD argument. Removing any one leg reduces the notion of PD to the simpler assertion that history matters, or raises the question of why we should re-assign older mechanisms for understanding political outcomes to a meta-argument called PD. What are the three legs, how does the formal PD argument logically connect them, and why are these legs necessarily logically connected?

First, codified PD *assumes* that small causes can decide among contingent outcomes at the beginning of a path, and thus that small causes can have large, long term, and sub-optimal (institutional) consequences (Pierson 2000a, 263; Mahoney 2000, 508, 510-512). Mahoney (2001a, 7) argues that "...small events and random processes can shape developments during a 'critical juncture,' leading to the adoption of options that could not have been predicted by theory," and (2001b, 111) that "trajectories of development are sometimes punctuated by critical periods in which relatively small or contingent events have a profound influence on subsequent events and patterns of change." Pierson (2000, 251) says "large consequences may result from relatively small or contingent events," and then clearly defines contingent events in part as small events with large outcomes: "2. Contingency. Relatively small events, if they occur at the right moment, can have large and enduring consequences." Contingency is an essential part of this leg because absent multiple, distinct potential equilibria, there would be no alternate "paths."

It is the *smallness* that is problematic here. There are two logical reasons these initial causes must be small. PD arguments rest on the important and valid distinction between the mechanisms that produce a path (Stinchcombe's "historical causes"), and the mechanisms that reproduce a path (the new "constant" causes).⁶ If the historical causes that provided the mechanisms of production for a path were

⁶ The classic elaboration of this approach is of course Collier and Collier (1991, 27-39).

larger in both effect and duration than the purported mechanisms of reproduction, then Occam's razor would suggest that these structural, historical causes continued to be the primary causal source for the observed behaviors or institutions. But if this were so, then PD's distinction between mechanisms for reproduction and mechanisms for production would collapse, because, in Stinchcombe's terms, these historic causes instead would be operating as constant causes.

The role of relative economic backwardness in Gerschenkron (1962) again illustrates why the relationship between historical and constant causes dictates small historic causes. From formal PD's point of view, the (unquestionably large) historic cause here is relative backwardness at the time industrialization starts. This created a critical juncture as states and local firms pursuing industrialization generate new economic institutions for aggregating and investing capital, creating and disciplining industrial labor, and protecting the domestic market from foreign competition. In PD's view, these new institutional forms yielded positive returns for actors. This new constant cause made these institutions self-perpetuating. Yet relative backwardness, the old historic cause, clearly continues to operate as a second constant cause, contradicting PD's distinction between mechanisms for production and reproduction.

Thelen (2003) tries to salvage a place for large historic causes by arguing that institutional conversion and layering occurs. However, this argument suggests that actors consciously reshape and reuse organizations, rather than suggesting that institutions determine the interests of actors. While Thelen's move is probably analytically right, it also reduces PD's usefulness for historical institutionalism. In this view, individuals reshape organizations and institutions, rather than institutions shaping actors.

Formal PD must logically *assume* small historic causes, lest large historic causes continue to operate past the critical juncture. Thus, in turn, formal PD must also *argue* for increasing returns as a mechanism of reproduction. Increasing returns provide a constant cause big enough to swamp out residual effects of the old historic cause. Why? Actors seeking to change or maintain institutions and organizations almost always confront collective action problems. But PD presents itself as a narrower and stronger explanation for stasis than the free rider problem. If it were neither narrower nor stronger, then there would be no reason to prefer a PD explanation to the usual logics of collective action. The argument about increasing returns provides a mechanism that goes beyond the normal collective action dilemmas. If extant institutions garner increasing returns, actors confront not only the usual difficulties that burden collective action, but will also have lower expectations about their net payoff from changing collective institutions. In its

strongest possible formulation, a situation of increasing returns should crowd out all alternatives to the status quo. 'Increasing returns' is thus an essential leg of the PD stool. The argument about increasing returns provides a durable mechanism locking actors into a particular, contingently derived path.

Increasing returns are such a strong motivator for preserving the status quo that we might wonder why change occurs at all. Indeed one early complaint about PD (and historical institutionalism) was that it magnified the apparent difficulty of change, even though virtually all analysts, particularly Thelen (2003), correctly observe that incremental, evolutionary change is a pervasive feature of all societies. Yet massive change also occurs, requiring some explanation. Thus, formalized PD's third leg is an *analogy* between PD and evolutionary theory's idea of punctuated equilibrium. Exogenous climate changes and asteroids trigger massive evolutionary change. Similarly, in PD, an exogenous shock provokes massive institutional change, which then gives way to a longer period of normal, gradual, and possibly insignificant institutional evolution (Krasner, 1984). Critical junctures thus allow PD to segregate exogenous mechanisms for production from its powerful, endogenous increasing returns mechanism for reproduction. Critical junctures permit the identification of the beginning and end of a given path, and thus the isolation of the specific institutional structures generating increasing returns.

It could be argued that by insisting on the logical interconnections I am constructing a straw man using the weakest parts of PD arguments put forward by various authors. But these three legs were logically connected in economists' original arguments about PD; indeed all I have done in this section is restate W. Brian Arthur's (1989) argument about technological path dependence. North's (1990, pp. 92-105) analysis of path dependence and institutions, which in turn underlies much of Pierson (2003a), also rests on these same three legs, because he too simply took over Arthur's argument. Finally the analysts themselves consider these legs conjoined. Thus Mahoney (2000a, 508) notes that "Self-reinforcing sequences often exhibit what economists call 'increasing returns,'" and then (510) defines PD in terms of three minimal conditions – sensitivity to initial events, contingency, and "inertia," i.e. an unspecified mechanism of reproduction. Pierson's classic article (2000a, 251 and 263) presents a bulleted definition of PD linking contingency, small causes, increasing returns (again as "inertia"), and timing; he clearly defines path dependency as relying on increasing returns processes in the book manuscript that presents his most recent thinking on path dependence (2003, 8-9, 57). Indeed, Pierson (2000a, 252) argues that increasing returns based PD processes are more common in social and political life than in economics, an emphasis reinforced by the title of his article.

The strongest objection to the way I characterize formal PD above might come from Mahoney. He argued (2000) that there are at least two different types of path dependent sequences. His first type corresponds to the increasing returns model presented above. But his second type, the reactive sequence, does not. Mahoney (2000, 509) defines a reactive sequence as a “causal chain in which each step is a reaction to antecedent events,” noting that for a reactive sequence “to follow a specifically path dependent trajectory...the overall event chain itself must be marked by processes of ‘inherent sequentiality’.”

Increasing returns are clearly not a characteristic of reactive sequences, because if the first move in the sequence were to generate increasing returns, there would be no second move. While reactive sequences cannot be understood by resort to increasing returns, the fact that they can be adequately explained (as I will do later) by decreasing returns in the context of normal theories of collective action again suggests that PD as an approach either conflates incommensurable mechanisms, or simply re-labels older arguments about collective action. It is akin to arguing that granulation can occur from the binding of oxygen (as in rusting) or from the expulsion of oxygen (un-rusting, as it were). The same is true for Mahoney’s other increasing returns based mechanisms for path reproduction, namely power, functionality, and legitimation, all of which are older arguments grouped under a newer, expansive label.⁷

Finally, given that any one of the three legs I’ve gathered here unquestionably characterizes some social phenomena, allowing the presence of any single one of them to qualify a phenomenon as a PD phenomenon blurs the distinction between PD and other, non-PD causal arguments. This reduces PD’s utility as a theoretical anchor for historical institutionalism by reducing what are already analogic arguments into aphoristic appeals to history. It also exacerbates the conceptual confusion that sees the non-contingent arguments of a Luebbert or Gerschenkron as essentially similar to the kind of contingent argument Mahoney (2001a) claims to advance.

PD arguments thus must rest on three connected legs. Small causal forces with large downstream consequences determine the contingent outcome of an

⁷ Increasing returns arguments also run into two other difficulties. First, if institutions are what North (1990, 107) says they are, merely “constructs of the human mind,” they cannot enjoy ‘increasing returns.’ Ultimately actors and organizations have to be the beneficiaries of increasing returns. Institutions cannot cash dividend checks. Second, Alexander (2001) argues persuasively that sunk costs in institutions are much lower than we usually think, reducing both the costs of change and the benefits of increasing returns to a given institutional structure.

exogenously initiated critical juncture, eliminating the other possible equilibrium points that might emerge from the juncture. Exogenous forces are largely important only at these formative moments. Change does occur within paths, but this largely incremental change is endogenously contained by actor calculations about the relative lack of gains from exiting the status quo even when a better situation might exist. The loss of any one of these three legs seriously undermines PD’s theoretical coherence. Absent small causes with large consequences, PD arguments are indistinguishable from generic structural arguments. Absent increasing returns, PD must aggregate a range of incommensurable mechanisms (as with the granulation approach above). Absent the analogy to punctuated equilibria, the origins and termini of paths become impossible to identify, reducing PD to the unsurprising (but sometimes wrong) claim that yesterday is an important predictor for today, and returning us to an unsettled debate about history.

The following sections attack all three legs of the formal PD stool. Big consequences usually require big causes, and big causes typically are highly determining (and thus not contingent in formal PD’s sense). Increasing returns do not characterize most social and political institutions. Minimally, there is no reason to suspect that on average increasing rather than constant or decreasing returns characterize political activity; maximally, it is plausible to suspect that like most economic phenomena, social and political institutions often face decreasing returns as expansion exhausts the readily available inputs that initially permitted that expansion. Finally, the analogies to punctuated equilibrium and evolution focus too much on lock-in and not enough on “lock-out” – that is, on how exogenous forces that keep a given institutional cluster on path – and not enough on the degree to which endogenous changes generate new situations.

Trivial Causes with non-Trivial Consequences?

The PD literature suggests that small causes can trigger big changes that are not averaged out in history. This matters because large causes for large consequences suggest the possibility of continued influence for a given “historic” cause, implying that the historic cause is operating more like a constant cause. PD’s contingency has two components: at least two possible outcomes, and small causes that generate those outcomes. Thus, for example, and reduced not quite to absurdity, kingdoms *can* be lost because farriers do a bad job nailing in horseshoes. This leg of the PD argument has two severe weaknesses. First, it asks us to entertain an implausible belief about the correlation between the scale of a given cause and the number of trials in which that cause will emerge. Second, it abstracts those small causes from their larger social context, and thus from the structural causes that not only make

those small causes relevant, but also tend to determine outcomes.

Relatively speaking, the smaller the cause, the more likely it is that there will be repeated trials involving that cause. Horseshoe failure is not a perfectly random, once only event. Over the long run, horseshoe failure should average out as a variety of would-be monarchs contend for control of kingdoms. Given a statistical probability that people with absolute power will abuse their subordinates, there is always some chance the farrier will mis-nail the shoe out of spite or fatigue, and that in repeated competitions with less abusive (though not necessarily nicer) would-be monarchs, the Richard III's of the world will lose their kingdoms. The *collectivity* of these individual outcomes thus would exhibit some regularity, and in this sense these contingencies are averaged out (are not non-ergodic). The only situations in which horseshoes won't average out would be singular, large-scale, non-repeating events like the emergence of the absolutist state or like Goldstone's (1991) revolutions. But it seems implausible that these unique developments rest on relatively small contingencies rather than on large scale structural phenomena, like a struggle between elites for control over state revenues. Indeed, significant 'small' causes cannot be found in the kind of works PD formalizers themselves hold up as models – Luebbert, Moore, Gerschenkron and Goldstone. Moreover, these unique events are not within the self-styled domain of historical institutionalism.

There is a second way in which codified PD misunderstands how small events are averaged out in history and economics. Technologies and organizational formats do not exist isolated from their uses and users, and social programs and institutions do not emerge accidentally. To continue the horseshoe metaphor, horseshoes only matter when structural conditions make them matter, in this instance when monarchs personally controlled their own military forces. Or to take the PD literature's canonical case for little causes with big effects, consider the adoption of the QWERTY keyboard.⁸ It is certain that a totally cost-free redesign of the keyboard today would not reproduce Qwerty. Nonetheless, economics is not only about static comparisons of relative efficiency, but also about the selection of alternatives in an environment in which all choices are constrained by opportunity costs. In Qwerty's case, the overwhelming structural factor was 19th century bureaucracies' insatiable appetite for clear, fast information production and dissemination. That structural factor determined, and continues to determine the

production of machines for information input and processing. In that context, Qwerty, or more precisely typing, represented not a completely 'chance' outcome, but rather a deliberate choice by designers who knew their typewriters were in competition not only with other typewriters but also with other information input/transmission devices.

Qwerty's presence has not blocked the continued operation of structural pressures for faster information input/transmission that have driven innovations that dramatically reduced the time cost of document production. Successive improvements on the theme of the typewriter – electric power, typing balls, the PC, and voice recognition – all caused a rough doubling in the number of (correct) words per minute that could be typed. Qwerty per se did not bar substantial tweaking of the typewriter's capabilities because actors pursued not a static, binary comparison of *keyboards*, but a range of routes to overcome a range of barriers to increased information flows. In short, much as in touch-typing, looking at the keyboard means you're looking at the wrong thing. Small causes are unlikely to have much effect determining large outcomes. And, as argued above, large causes (e.g. pressure for faster information flows) are likely to be operating as constant causes. Or as Fernand Braudel (1997) elegantly put it, "An incredible number of dice, always trolling, dominate and determine each individual existence: uncertainty then, in the realm of individual history; but in that of collective history...simplicity and consistency."

A telling example of this problem is found in Mahoney (2001a), which links small policy differences in the 19th century to regime outcomes in Central American states. Mahoney (2001a, 40) argues that

"the initial design and implementation of policy options are identified with the one or two liberal presidents in each country who headed the phase of full-blown liberalism. Once enacted by these leaders, policy options had the effect of defining an overall trajectory of state to class transformation out the liberal reform period."

Put baldly, individual idiosyncracies set these states on different paths. The problem with this analysis is that the countries in which elites opted for more radical liberal reforms (i.e. reforms that expanded the privatization of land ownership, enabling expanded export production) were precisely those countries that already had a greater degree of integration with world markets, a greater degree of commercialization, and a greater degree of apparent state strength. Elites who stood the best chance to benefit from aggressively entering world markets, and who plausibly could coerce peasants into the labor market, took more decisive steps to do so than elites whose probability of success was smaller. Mahoney does not present

⁸ Note that Pierson (2000) frames his discussion of Brian Arthur with Qwerty; Thelen (2003, 219) adverts to Qwerty as *the* paradigmatic case for PD; Aminzade (1992) adverts to Qwerty; and Mahoney (2001a) opens his discussion of critical junctures with Qwerty. Liebowitz and Margolis (1990) present a strong criticism of received wisdom on the Qwerty case.

cases in which elites opted for the alternative (non-obvious) choice, suggesting that the choice was not contingent in the sense that Mahoney uses. Instead it suggests that large structural forces largely determined regime outcomes, much as Robert Williams (1994) argued in his analysis of the same cases.

There is one final problem with the way formal PD deploys contingency and small causes. In principle, horseshoes could fall off both Kings' horses. But what would this trigger? An outcome in which both armies lost? Implausible. Instead, it reveals is that formal PD's analytic emphasis on discrete paths blinds it to systemic causes for the outcomes it analyses; that is, for the ways in which the paths of seemingly discrete institutional clusters condition each other. The classic economic cases for PD are Paul Krugman's (1995) and Nicholas Kaldor's (1985) use of location theories and cumulative causation to explain the geographical distribution of production. Kaldor's idea of cumulative causation is a well-established explanation for the diverging economic fortunes of different regions. Krugman presents an argument in which small differences in external economies of scale cause manufacturing to cluster geographically. In both Krugman's and Kaldor's models, small initial differences do cumulate into larger divergences. But divergence between different regions in these models is as much externally maintained – one region's success both defines and constitutes another region's failure – as it is an outcome of the initial conditions. One region's prior industrial success locks another region out of that kind of industrial success.⁹ But the main causal forces here are operating at a systemic level, not at some smaller, lower level. The system could sort out outcomes based on a range of plausible small causes. To return to horseshoes, if horseshoes didn't matter (because all eight fell off or stayed tight), then some other small cause would “matter” – rusty armor, Napoleon's hemorrhoids, Jenkin's ear. But these small “causes” are activated as specific manifestations of larger structural forces.

The fact that paths condition each other implies the necessity, rather than formal PD's possibility, of multiple possible equilibrium outcomes. But it also suggests that contrary to much historical institutional work, any given institutional complex cannot be considered in isolation from other institutional complexes. I will pick this theme up in the fourth section when I discuss the differences between evolutionary and ecological metaphors. First, however, I must deal with the issue of increasing returns and endogenous maintenance of a given path.

⁹ This point is implicit in Gerschenkron's argument as well – late developers develop the way they do because of the prior existence of early developers. Contrast North's (1990) analysis of Spain and Britain, which largely proceeds as if the two were *not* locked into a zero-sum struggle for empire.

Increasing Returns, Economies of Scale and Growth to Limits

Formal PD's preferred explanation for institutional reproduction is increasing returns. Remove increasing returns, and you remove one of the strongest forces for institutional self-reproduction. Remove increasing returns, and it becomes harder to argue for PD as a concept distinct from earlier arguments about actors' reticence to write off sunk costs, or actors' vulnerability to various forms of cognitive blindness, or actors' deliberate use of power to maintain a status quo that works in their favor. But these arguments either make actors prior to institutions, or suggest fairly weak ways in which institutions shape actors' preferences. In other words, all of them sharply reduce the strength of institutional “lock-in” and self-reproduction, raising the possibility of significant institutional change outside of critical junctures. Thus this section first, takes issue with the idea that increasing returns are a pervasive part of politics, except perhaps at the system level. This suggests that even if PD were right, it would have no utility for historical institutionalists, unless they took an entire political system as their explanandum. But studies with entire systems as the explanandum, like those of Luebbert and Moore, do not fit the historical institutionalist mold. Then this section shows that a situation of diminishing or constant returns generates the sequence of events Mahoney labels a *reactive* PD sequence. This suggests that PD describes a sequence of events rather than a set of coherent mechanisms.

Pierson (2000a; 2003a, 50), Mahoney (2000, 508) and Thelen (1999; 2003, 221) argue that at least some, perhaps many, political processes are subject to increasing returns. None provides much evidence that this is true in non-trivial ways.¹⁰ Pierson (2000, 258) cites Theda Skocpol's research showing that a high percentage of organizations founded in the 19th century are still around. Is this a function of increasing returns? Or is it explained more easily by the processes of conversion Thelen (2003) lately prefers, processes which erode the distinction between mechanisms of production and reproduction? Collective action does incur large fixed costs. And it is plausible that once an organization is established it can be used over and over again, amortizing the costs of organization over a large number of political interventions.

But increasing returns are rare in economic life except at the system level, and equally so somewhat implausible in political life. Most organizations and economic complexes experience rising long run average cost curves. The Microsoft

¹⁰ Mahoney (2000, 508) notes that “economists have not fully specified the ways in which institutions deliver increasing returns over time,” without asking what this might mean for analyses of political institutions.

antitrust trial, for example, revealed how even in a domain that should be subject to the strongest possible forms of increasing returns – software – the organization enjoying increasing returns had to resort to various non-economic forms of suasion to maintain its dominance of the market. And Microsoft's dominance of the market for personal computer operating systems and some applications software has spawned a counter mobilization that perfectly fits the pattern I will describe below. Just as with most economic life, political life involves significant variable costs for maintaining organizations, diminishing the scope for increasing returns even when the “constant” or fixed costs of creation are high. At the same time, successful political collective action is almost always likely to provoke an effort at counter mobilization that limits the returns from any given prior organization. This does not invalidate various mechanisms formal PD has advanced about why people might support institutions/organizations, but it does mean that these arguments do not stray much from the traditional realm of collective action problems. Formal PD thus unnecessarily re-labels and aggregates older arguments about economies of scale and collective action. Pierson (2000a) argues that most political processes provide some form of public good, whether of the pure or Olsonian form. Because Pierson frames the issue in terms of Olsonian public goods, I will conduct the discussion below in those terms.

Can collective action have increasing returns? Imagine a world in which collective action involves large initial fixed costs but no variable costs, and in which each additional, homogenous user thus adds to the utility all users experience. In this world, initial adopters have an incentive not only to organize themselves, but also to induce or coerce late adopters to join the organization, because each additional member raises the total pool of benefits that can be distributed, although per capita benefits increase asymptotically. In this scenario the entire population ends up joining the collectivity because membership is costless and there are (small) net benefits. But once everyone is inside the organization, there is no basis for politics around that issue. Instead, other, previously latent cleavages animate politics. These cleavages are organized around issues for which there are constant or declining returns. We have historical examples of this kind of situation in the explosive growth of new world religions like Buddhism, Islam, and Christianity. However, while the best examples of this phenomenon involve “identity” issues like religion, none of the great world religions has attained complete penetration of the population. Identity, after all, requires an “other,” which suggests that even here there are declining returns to scale.

What happens if returns decline beyond a certain point? Mancur Olson's (1965, 22) classic analysis of collective action in fact assumed a rising long run

average cost curve. Rising long run average costs occur when the rising cost of the least abundant *variable* inputs for a given production process offset economies of scale from spreading *fixed* costs over large production runs. Past that point, the cost of additional inputs (read: recruits) rises, and the net benefit to the firm (read: all participants) falls. At that point increases in production (recruitment) stop.

This logic produces the patterns we generally see in political life. The costs of initially organizing a union (or business organization, or political party, or lobby) are high, and just as surely a union (etc.) once established can turn its sights from organizing more workers over wage issues to other economic (e.g. pensions – seeking economies of scale) and political issues (e.g. left parties – seeking economies of scope). But mobilizing an organization's membership in pursuit of new targets or public goods incurs new costs. The net benefit accruing to a given member from each extension of an organization's mission yields diminishing returns as the organization stretches its members' loyalty beyond its core goals, and as it begins to recruit members for whom the marginal benefits of joining the organization are smaller and smaller, and thus for whom the costs of recruitment are high. On the other side there is a limit to the resources a given rent seeking organization can collect out of a fixed pool of resources.

Consider PD's classic examples: the increasing returns that accrue to each user of a fax machine or email as more and more people obtain a fax or e-mail account. In this instance, if only by definition, the ability to fax more and more people makes the fax machine ever more useful. But, first, institutions are not fax machines. People may voluntarily acquire fax machines so as to be able to easily transmit documents. But people don't join institutions voluntarily – especially if institutions are, as North insists, states of mind. People must be socialized into institutions. Late joiners logically must benefit less or they would have joined earlier; conversely the earliest joiners are likely to be those who enjoy the greatest return from a given organization. (This is the origin of ‘k’ groups, after all.) Thus at the margin the costs of socializing or coercing the last deviant are necessarily high (otherwise they wouldn't have been deviant in the first place), and these costs not only reduce net benefits to core members, but might reduce gross benefits to the institution.¹¹

¹¹ Consider the classic analyses of the dilemma of social democratic parties: Przeworski (1985) and Przeworski and Sprague (1986); or consider the effect of the Inquisition in reducing the long run revenues of the Catholic Church in Spain by removing sources of economic dynamism. Or, at a more personal level, consider the time-tax imposed on early adopters of technologies as they are called upon to explain how things work to less technically adept late adopters.

This is especially clear when we consider the question of who actually experiences “increasing returns” as a real resource flow, and thus who will contribute to the maintenance of the organizations that materially constitute an institution. Economists (Young, 1928) argue that increasing returns are largely experienced as external economies, and do not accrue to the innovating firm. Why then will individual actors or organizations freely choose to maintain other organizations by returning resources to those organizations? The literature (Streeck, 1985; Maier, 1987; Rothstein, 1990) on unions, business organizations, and parties, all relatively durable organizations as compared with other kinds of social movements, shows that in the absence of *coercion*, organizational maintenance, and thus the maintenance of an institution’s material foundations, is difficult. Many of the durable business organizations (and unions) in Europe have required state coercion in the form of representational monopolies, legalized control over selective incentives like unemployment or sickness insurance, or mandatory extension of negotiated contracts to non-participants in order to assure both their continued existence and the extension of the membership rosters to the entirety of their natural constituency.

Similarly the few political parties that have maintained more or less continuous rule did so by fusing themselves with the state, and benefiting from the state’s monopoly of *coerced* tax extraction. They thus assured themselves of constant streams of ‘costless’ (to the party) revenue that could be turned to the task of organizational survival. Think of how Tammany Hall, the Mexican PRI and the Japanese LDP used public spending, and in contrast think of how the Progressive movement drained Tammany’s pork barrel so as to undermine the “institution” of ethnically based municipal socialism. The key role that state-enforced monopolies of representation or delegated enforcement powers play in organizational maintenance is a clear signal that organizations do not experience increasing returns and that the (variable) costs of organizational *maintenance* are high and constant, even without mission extension. Without coercion, organizational and institutional paths are not self-sustaining, and actors invest considerable energy in maintaining the status quo. The original literature on critical junctures (Collier and Collier, 1991, 37) saw this clearly.

The salience of coercion in the maintenance of institutions and organizations, and the presence of diminishing returns to most political activity, can be explained by existing collective action theory. Successful organization is generally self-limiting. Olson argued that in a world of perfectly homogenous individuals it would be hard to generate any collective goods voluntarily. Russell Hardin amended this by noting that in a world of heterogeneous actors receiving different returns from collective action a ‘k’ group might form based on its

disproportionate receipt of returns from collective action. But both assume that the losers from successful collective action (the rent-payers) are a homogenous and necessarily larger group who are thus much less likely to organize. However it is plausible that the creation of one rent-seeking (or identity shaping) ‘k’ group makes it easier to form an opposed ‘k’ group by clarifying the interests (identities) of people and organizations that naturally have mixed interests.

Consider a situation in which we have 100 people, each of whom have a preference schedule containing the two olsonian public goods, but with varied preferences for those two items. Actors at either end of the spectrum have a pure preference for one good; those precisely in the middle are indifferent. Those with a preference for **A** organize to obtain **A** as a good. But if the production of **A** involves rent seeking (or the acquisition of power), a growing coalition for **A** raises the costs imposed on those who prefer **B**, and thus increases the relative benefits of organizing for the latent group that prefers **B**. Successful organization by the first group of actors triggers counter-mobilization by a second set of actors disadvantaged or threatened by the first round of collective action. The first act of collective organization clarifies the interests of the individuals remaining outside the first organization and polarizes them against the first group.

Politics around tariffs on and quotas for U.S. sugar imports illustrate this phenomenon. A classic rent-seeking ‘k’ group of sugar producers – twenty firms that capture more than half the benefits – supports quotas and tariffs. A heterogeneous organization composed of corporate sugar consumers, anti-tax organizations, and environmentalist organizations opposes tariffs.¹² This counter-mobilization is impossible to imagine in the absence of sugar producers’ prior mobilization. The pro-regulation environmental groups otherwise have nothing in common with the anti-regulation low-taxers and large corporations, while corporate sugar consumers have conflicts over market shares. This counter-mobilization sets limits on the returns to sugar producers from their own prior mobilization.

It could be argued that in these two examples I have provided a basis for Mahoney’s ‘reactive sequence,’ in which there is a logical pattern of action and reaction. But this argument triggers two questions. If this is so, why do we need the language of PD to explain what has happened? Collective action theory seems to serve quite well. So too does the kind of inherent sequentiality in Marx’s explanation of how the increased penetration of capitalist markets would create a class of proletarians opposed to capitalism, or economists’ arguments about rising average cost curves. This makes PD just old wine in a new bottle.

¹² See the Coalition for Sugar Reform at <http://www.sugar-reform.org>.

PD could be new wine in new bottles if it could articulate a mechanism linking all these various phenomena, rather than a description of an event sequence. But PD has yet to articulate any explanation of an underlying mechanism uniting collective action in the presence of increasing returns and diminishing returns that is distinct from collective action theory, or that relates collective action theory to any of the other proposed mechanisms for self-reinforcement of a given path. Even the commonality in the event structure is weak, as increasing returns paths are characterized by the same move over and over again, while reactive sequences are composed of moves and countermoves. Again, my point is not that increasing returns cannot exist. My point is that a concept that attributes the same outcome sometimes to increasing and sometimes to decreasing returns is incoherent. This makes PD into a theory of “granulation.”

In the next section I will adapt the argument about a rising long run cost curve to help understand how formal PD misunderstands evolution. Evolution occurs because actors who prefer institutional replication inevitably end up changing the structures that constitute the path as they react to rising long run average costs. This is so because economic (and institutional) growth by definition always relies on and exploits the most abundant and thus cheapest resource. But resources are not infinitely abundant. Growth inevitably encounters limits as this abundant resource is exhausted. Resource exhaustion produces change for the sake of avoiding change through logics of appropriateness, as well as amplifying the attractiveness of alternatives to a given path. In other words, the distinction between *mechanisms of reproduction* and *mechanisms for production* that lies at the heart of formal PD is hard to maintain in a form that is consistent with both the analogy to evolution formal PD wants to make and historical institutionalism’s desire to have a micro-foundation. Mechanisms for reproduction are often mechanisms for production (and the reverse).

If PD analysts concede that incremental institutional reproduction creates substantial change – as Thelen (2003), for example appears to do – then efforts by organizations and thus, implicitly, institutions to accommodate themselves to changes in their environment are hard to segregate into “production” and “reproduction” except perhaps as a purely heuristic exercise. This is why the next section argues that an ecological analogy suggests equally good ways to understand path-like phenomena as does formal PD’s analogy to evolution and punctuated equilibrium.

The Analogy to Evolutionary Competition and Punctuated Equilibrium

Formal PD’s puzzle and its model rest on an analogy to evolution and punctuated equilibrium. This analogy locates mechanisms for production outside the

institutions in question and the mechanisms for reproduction inside those institutions. This move makes sense given formal PD’s reliance on increasing returns as a mechanism of reproduction, and is partially consistent with historical institutionalism’s empirical effort to explain stasis. But there is an antinomy between the analogy to punctuated equilibrium and institutionalism’s insistence that institutions shape outcomes by shaping individuals’ interests. A system level approach to PD suggests that unit level behaviors create new paths in reaction to rising resource costs, while the system tends to stabilize paths. If PD is a system and not unit level phenomenon, this conflicts with institutionalism’s desire to use PD as a basis for an argument that units (institutions) are the most important causal variable explaining stasis, and that mechanisms for reproduction are uniquely located inside institutions. I will first sketch out the antinomy between institutionalism and a punctuated equilibrium PD based on increasing returns, and then lay out the antinomy between a system level PD and unit level institutionalism. Once more, my point is *not* that the phenomena the PD/institutionalist argument identifies cannot exist, but rather that their event sequence is compatible with incommensurable mechanisms, and thus presents something like a theory of granulation.

The first antinomy around increasing returns and HI

For historical institutionalism, institutions are causally important because they shape actor interests in ways that assure institutional reproduction and produce divergent outcomes. Institutions then become the crucial variable preventing change and causing reproduction, which is why formal PD sequesters change outside the path and into critical junctures. But doing so creates two problems.

First, if institutions are prior to individuals because they shape individual interests, then we are left at a loss for an explanation of the causal sources for change.¹³ Logically, if the mechanism for reproduction rests on increasing returns, then actors (whether individual or organizational) rationally avoid large changes, although PD does not rule out ‘on path,’ intra-path change. In PD arguments stasis thus has *endogenous* causes, because PD arguments locate the causal origin of stasis (aka incremental change) inside the path – in actors’ calculations about the continued likelihood of increasing returns from a given technology or organizational structure.

These cost-benefit calculations are wholly endogenous, in the sense that actors will not organize to change the parameters that structure their calculations. Doing so would mean that actors were consciously opting to forego increasing returns from the technology or institutional path. Thus only some exogenous

¹³ Young (1998) provides an argument for the emergence of stable institutions (his “curb sets”), but individuals are logically prior to institutions in his analysis.

‘asteroid’ that radically disturbs actors’ calculations about the relative returns of different institutional formats could push them off path. These asteroids radically change the environment surrounding the old institutions. Thus, in formal PD, critical junctures cannot emerge from the normal processes of change inside a path.¹⁴

In biology’s punctuated equilibria, change is both exogenous and non-social, like the asteroids that allegedly obliterated dinosaurs’ environment. But a non-social explanation of change is clearly inadequate for *most* social phenomena. This implies that in most cases change will originate from other institutions. But this creates an explanatory regress for PD. Where does change come from in those other institutions? Logically, all institutions should experience the same kind of stasis based in increasing returns.

As in the collective action example above, we can make a strong case that ‘paths’ endogenously exhaust themselves. Suppose institutions (read: firms, organizations, parties, etc.) initially experience increasing returns as they exploit some newly abundant factor. As any given institution or technology expands and matures, it exhausts this abundant factor just as a new population will boom until it exhausts resources in a given ecosystem. Actors confronting rising costs for this once abundant factor will begin searching for ways to get around its increasing scarcity, creating constant, pervasive change in the institution, rather than formal PD’s sudden “punctuated” change.

Consider expansion of the automobile economy in the U.S. The expansion of automobility and its associated institutions was premised on the availability of cheap inputs like petroleum and former agricultural workers. For a while, the expansion of automobile firms (and technologies) actually cheapened these inputs. Mechanization of farming drove people off the land and into factories, while cheaper prime movers lowered the cost of distributing gasoline. In other words, the process of path formation created its own initially increasing returns. But eventually the automobile industry exhausted both growth opportunities and its underlying cheap resources, leading to a rising average cost curve. The farm sector ran out of surplus workers, enabling labor militancy, and the sheer number of automobiles pushed demand for fuel above the available supply (itself already constricted by declining investment in oil extraction in response to falling prices), and permitted the formation of an oil cartel. Historically this factory and fuel crisis provoked substantial (but slow) institutional changes not only across the economy but also in the institutions of the automobile sector. Here the new critical juncture arose

¹⁴ Mahoney’s (2000, 523) reactive PD sequence has endogenous change. This again raises the issue of what makes PD a coherent concept aside from its event sequence.

endogenously (and dialectically) from the path’s own internal logics, rather than arising exogenously.

Suppose PD dropped increasing returns as the source of stasis in favor of explanation resting on socialization of actors? Dropping increasing returns would return PD to institutionalism’s original roots in the sociological critique of rational choice. This critique argued that logics of appropriateness maintain institutions (indeed, it often identified institutions with logics of appropriateness). Institutional stability then rests either on organizations’ ability to socialize new actors, or it is enforced externally, by the aggregate of institutions. But basing institutional stasis on logics of appropriateness again forces us to ask why these logics are stable. This move also creates logical problems.

As Berger and Luckmann (1967) first observed, the reproduction of social realities (i.e. logics of appropriateness) confronts two obstacles. The power of any given social reality (i.e. institution) derives from its opacity. But this very opacity creates barriers to the transmission of social knowledge from one cohort to the next. Even in a static environment, the second cohort will misunderstand and then mis-reproduce the institutional ‘genes’ or ‘memes’ it inherits from older generations. More important, the imperfection of intergenerational reproduction means that actors have the ability to manipulate social realities. This why Berger and Luckmann (1967, 109) saw social realities as expressions of power: “The confrontation of alternative symbolic universes implies a problem of power – which of the conflicting definitions of reality will be ‘made to stick’ in the society. . . . He who has the bigger stick has the better chance of imposing his definitions of reality.”

The imperfection of intergenerational transmission of values, and actors’ ability to use this imperfection to their own ends for means that institutions endogenously generate substantial change, not just critical junctures.¹⁵ Thelen (2003) addresses this issue by borrowing from other scholars the concepts of institutional *layering*, a partial renegotiation of institutions, and *conversion*, which brings institutions into alignment with new norms. Thelen’s approach restores institutional priority (since at least some individuals are socialized by institutions or organizations), but it does so by doing away with PD’s event sequence. Thelen’s approach also magnifies the already thorny historiographic problem of demarcating junctures from aftermaths, as substantial change cannot be segregated into the

¹⁵ Again, this is not to deny that some people who document endogenously generated junctures also invoke the path dependency label. The point is that this is not consistent with a simultaneous belief in increasing returns as a mechanism of reproduction.

critical juncture and stasis into its aftermath.¹⁶ Once more, conceding significant intra-path change implies increasing returns are not operating. Significant change – a critical juncture – thus could have endogenous roots whether you assume institutions are maintained through logics of appropriateness or real economic returns. But you cannot discern this if you start out assuming increasing returns as a mode of reproduction. Moreover, the argument for endogenous change suggests exogenously maintained stasis, which I will explore below. Exogenously maintained stasis undercuts the causal priority historical institutionalism assigns to institutions.

4.2 A second antinomy between codified PD and HI

If endogenously generated change is consistent with Formal PD's event sequence, what about exogenously generated stasis? Exogenously generated stasis would imply that units are generated by the system and simply populate that system, rather than having the independent causal force historical institutionalism assigns its institutional units. To return to formal PD's evolution metaphor, the environment (system) presents a variety of niches that organisms (units, institutions) may fill. But the organisms do not create their environment (and thus the niches). Thus the causal logic is the reverse of that which institutionalism seeks: systemic outcomes define the range of units that may exist rather than units structuring outcomes.

The appropriate metaphor here would not be the evolutionary one deployed by codified PD and much of economics, but rather an *ecological* metaphor: different species (i.e. different institutional complexes) jointly constitute their environment. These units both compete for and contribute resources as they try to adapt to their environment. For a unit to jump off its path would imply an effort to enter an ecological niche which is already filled. It is the prior filling of the niche that makes path jumping difficult (i.e. makes it yield low returns), rather than a set of endogenously generated parameters for a given species (path) that makes the returns low. Thus stasis would have exogenous origins, rather than endogenous constraints deriving from increasing returns. Indeed, actor behavior inside a path would largely

¹⁶ Collier and Collier (1991), 31, 37, also recognize this problem, noting that there is often a gap between juncture and reproduction, and defining their cleavage as the emergence of a “significant” working class (see 1991, 31, fn 14). By this they apparently mean the emergence of a significant *industrial* working class, but they do not specify what counts as “significant.” Using a behavioral definition – the emergence of open, organized class conflict between unions and owners or unions and state – is problematic, because it implies that working class organizations have formed and thus some degree of institutionalization has already occurred. This in turn creates a problem distinguishing between antecedent and ‘legacy’ institutions, and the interests that each set of institutions creates.

appear in this model to be concerned with adjusting that path so as to stem a rising tide of diminishing returns as resources were exhausted one by one.

To sum, a PD in which crisis and change emerged endogenously and in which stasis has exogenous, system level causes is perfectly consistent with PD's event structure, but removes any causal priority for institutions. Introducing power and social reproduction as mechanisms for endogenous change forces us to make either systems or actors prior to institutions. At the same time, the fact that this completely inverted model is consistent with formal PD's event structure suggests yet once more that PD has aggregated incommensurable mechanisms under its event structure.

5: Conclusion

Does PD in either its formal version or as an approach provide consistent analytic mechanisms for change and stasis for historical institutionalism? Does it thus explain how history matters and why actors do not voluntarily remediate (sub-optimal) social and/or political institutions? Formal PD tries to locate the source of institutional constraints in actors' enjoyment of increasing returns. Increasing returns endogenously generate stasis in a given path. PD also appears to provide a convenient explanation for the diversity of institutional formats we can observe, because contingent events at critical junctures shunt units into divergent institutional formats. These contingencies matter because it is only during critical junctures that actors are truly free to choose among competing alternatives. Post-juncture, the logic of increasing returns locks actors into their choice. As an approach, PD suggests that self-reinforcing mechanisms are a fundamental feature of political life.

Historical institutionalism does need a micro-logic. But an increasing returns-based, unit focused PD is not the micro-logic it needs. This article suggests that formal PD is not consistent with historical institutionalism, and that as an approach it lumps incommensurable mechanisms together. It argues instead that it is equally plausible that increasing returns are not a pervasive feature of political and social life, and that mobilization usually sparks counter-mobilization. Small events and choices activate contingencies that are set up by larger structural causes, and formal PD's historic causes thus operate more like constant causes than historic causes. Systemic causes enforce differentiation among paths rather than unit level processes. Finally institutional persistence usually flows not from increasing returns but from the application of power – at any cost – to secure a flow of resources. If we assume that intentionality characterizes this process of resource retention and acquisition, then the best place to start is probably by considering the important place that power occupies in the acquisition and retention of resources. This suggests the

importance of looking at the creation of elite identity (or identities) and group coherence – understanding the norms that animate institutions as a form of class formation and ongoing class conflict – rather than looking for a micro-foundation in individual utilities and the linked phenomenon of path dependence.

What of PD as an approach? Everything noted above runs opposite to the mechanisms that formal PD advances, but each is perfectly consistent with PD's event structure. This is why I have suggested that PD as an approach is akin to *granulation* as an approach. And the real danger from the *language* of PD becomes clear here. One area where PD probably does operate as described is in the field of memes. There are increasing returns from the use of linguistic short hands, and PD is cropping up everywhere in institutional analyses. By providing either an incorrect model for the presence of institutional stasis and change, or an impossibly broad one, PD threatens to crowd out extant, plausibly better understandings of how history matters and why units are differentiated in markets and other political systems. Why re-label Marx's arguments about the dialectical development of capitalism with 'reactive sequences?' What additional analytic traction is gained from using path dependence to encompass Weber's notion of 'developmental history?'¹⁷ Why substitute generic self-reinforcing mechanisms for the more precise mechanisms deployed in economic geography?

History matters. We don't choose freely. And timing surely matters as well, otherwise history wouldn't matter. But timing is not per se a mechanism. Arguments that seek to locate that loss of free choice in a model of PD based on increasing returns deriving from institutions contingently created from small causes are an evolutionary dead-end. PD could have real utility if it were able to unify phenomena under one theoretical roof. This is how science normally proceeds. But PD as an approach unifies phenomena that share a common event structure but not common causal mechanisms, much like a theory of granulation. Formalizing PD to avoid this problem only creates antinomies with historical institutionalism's argument that institutions are causally prior and determine mid-range phenomena. All political phenomena have a temporal structure because social life takes place in time, and most political phenomena probably involve institutions one way or the other. Arguing that these phenomena share a specific temporality – a similar structure of events – but different causal mechanisms only returns us to the observation that history matters. The problem then is to determine how history matters, that is, to determine the mechanisms that animate that structure of events, and the place institutions have in that causal chain.

¹⁷ Thanks to Peter Breiner for supplying Weber's own phrase.

References:

- Alexander, Gerard. 2001. "Institutions, Path Dependence, and Democratic Consolidation." *Journal of Theoretical Politics* 13:3, 249-270.
- Aminzade, Ronald. (1992). "Historical Sociology and Time." *Sociological Methods and Research* 20:4, 456-480.
- Arthur, W. Brian. 1989. "Competing Technologies, Increasing Returns, and Lock-in by Historical Events." *Economic Journal* 99, 116-131.
- Arthur, W. Brian, Y. M. Ermoliev, V. M. Kaniovski. (1983). "A Generalized Urn Problem and Its Applications," *Cybernetics* 19, 61-71
- Berger, Peter and Thomas Luckmann. 1967. *Social Construction of Reality*. New York: Doubleday.
- Braudel, Fernand. (1997). "L'histoire, mesure du monde," *Les écrits de Fernand Braudel*, vol II Paris.
- Collier, David and Ruth Collier. 1991. *Shaping the Political Arena: Critical Junctures, The Labor Movement and Regime Dynamics in Latin America*. Princeton: Princeton University Press.
- Ertman, Thomas. 1997. *Birth of the Leviathan*. Cambridge: Cambridge University Press.
- Gerschenkron, Alexander. 1962. *Economic Backwardness in Historical Perspective*. Cambridge: Belknap.
- Gerschenkron, Alexander. 1977. *An Economic Spurt that Failed: Four Lectures in Austrian History*. Princeton: Princeton University Press.
- Goldstone, Jack. (1991). *Revolution and Rebellion in the Early Modern World*. Berkeley: University of California Press.
- Goldstone, Jack. 1998. "Initial Conditions, General Laws, Path Dependence, and Explanation in Historical Sociology." *American Journal of Sociology* 104:3, 829-845.
- Hall, Peter and Rosemary Taylor. 1996. "Political Science and the Three New Institutionalisms." *Political Studies* 44, 936-957.
- Hall, Peter. 2003. "Aligning Ontology and Methodology in Comparative Politics," in James Mahoney and Dietrich Rueschemeyer, ed., *Comparative-Historical Analysis: Innovations in Theory and Method*, Cambridge: Cambridge University Press.
- Johnson, Chalmers. 1982. *MITI and the Japanese Miracle*. Palo Alto: Stanford University Press.
- Kahneman, Daniel and Amos Tversky. 1979. "Prospect theory: An Analysis of Decision under Risk." *Econometrica* 47, 263-291.
- Kaldor, Nicholas. 1985. *Economics without Equilibrium*. Armonk, NY: M. E.

- Sharp, 1985.
- Katznelson, Ira. 2003. "Periodization and Preferences: Reflections on Purposive Action in Comparative Social Science." In *Comparative Historical Analysis: Innovations in Theory and Method*, ed. James Mahoney and Dietrich Rueschemeyer. Cambridge: Cambridge University Press.
- Krasner, Stephen. 1984. "Approaches to the State." *Comparative Politics* 16, 223-246.
- Krugman, Paul. 1995. *Development, Geography and Economic Theory*. Cambridge, MA: MIT Press.
- Liebowitz, S. J. and Stephen E. Margolis. 1990. "The Fable Of The Keys." *Journal of Law & Economics* 33.
- Mahoney, James. 2000. "Path Dependence in Historical Sociology." *Theory and Society* 29:4, 507-548.
- Mahoney, James. 2001a. *Legacies of Liberalism: Path Dependence and Political Regimes in Central America*. Baltimore: Johns Hopkins University Press.
- Mahoney, James. 2001b. "Path-Dependent Explanations of Regime Change: Central America in Comparative Perspective." *Studies in Comparative International development* 36:1, 111-141.
- Mahoney, James and Dietrich Rueschemeyer, ed., 2003. *Comparative-Historical Analysis: Innovations in Theory and Method*, Cambridge: Cambridge University.
- Mahoney, James and Dietrich Rueschemeyer. 2003. "XX" in James Mahoney and Dietrich Rueschemeyer, eds., *Comparative Historical Analysis: Innovations in Theory and Method*. Cambridge: Cambridge University Press.
- Maier, Charles. 1987. *In Search of Stability*. Cambridge: Cambridge University.
- March, James and Johan Olsen. 1989. *Rediscovering Institutions*. NY: Free Press.
- Moore, Barrington. 1966. *Social Origins of Dictatorship and Democracy*. Boston: Beacon Press.
- North, Douglass. 1990. *Institutions, Institutional Change and Economic Performance*. New York: Cambridge University Press.
- Offe, Claus and Helmut Wiesenthal. 1980. "Two Logics of Collective Action: Theoretical Notes on Social Class and Organizational Form." *Political Power and Social Theory* 1, 67-116.
- Olson, Mancur. 1965. *Logic of Collective Action*. Cambridge, Mass., Harvard University Press.
- Ostrom, Elinor, "Rational Choice Theory and Institutionalism," *American Political Science Review* 85:1, March 1991, pp. 237-243.
- Pierson, Paul. 2000a. "Increasing Returns, Path Dependence, and the Study of Politics." *American Political Science Review* 92:4, 251-267.
- Pierson, Paul. 2000b. "Not Just What but *When*: Timing and Sequence in Political Processes." *Studies in American Political Development* 14, 72-92.
- Pierson, Paul. 2003a. *Politics in Time: History, Institutions, and Social Analysis*. Princeton: Princeton University Press.
- Pierson, Paul. 2003b. Public comments at a symposium on Pierson (2003a) at the University of X, and at the 2003 APSA annual meeting panel on Path Dependence. Paul Pierson and Theda Skocpol, "Historical Institutionalism in Contemporary Political Science." paper presented at the American Political Science Association annual meeting, Washington DC, September 2000.
- Pontusson, Jonas. 1995. "From Comparative Public Policy to Political Economy." *Comparative Political Studies* 28:1, 117-147.
- Przeworski, Adam. 1985. *Capitalism and Social Democracy*. Cambridge: Cambridge University Press.
- Przeworski, Adam and John Sprague. 1986. *Paper Stones: A History of Electoral Socialism*. Chicago: University of Chicago.
- Rothstein, Bo. 1990. "Marxism, Institutional Analysis and Working Class Power: The Swedish Case." *Politics and Society* 18:3, 317-345.
- Steinmo, Sven, Kathleen Thelen, and Frank Longstreth, eds. 1992. *Structuring Politics: Historical Institutionalism in Comparative Politics*. Cambridge: Cambridge University Press.
- Stinchcombe, Arthur. 1968. *Constructing Social Theories*. New York: Harcourt Brace.
- Streeck, Wolfgang. 1985. "Community, Market, State - and Associations? The Prospective Contribution of Interest Governance to Social Order." In *Private Interest Government*, ed. Wolfgang Streeck and Philippe Schmitter. London: Sage.
- Thelen, Kathleen. 1999. "Historical Institutionalism in Comparative Politics." *Annual Review of Political Science* 369-404.
- Williams, Robert. 1994. *States and Social Evolution: Coffee and the Rise of National Governments in Central America*, Chapel Hill: University of North Carolina Press.
- Young, Allyn. 1928. "Increasing returns and Economic Progress." *Economic Journal* 38:152, 527-542.
- Young, H. Peyton. 1998. *Individual Strategy and Social Structure*. Princeton: Princeton University Press.
- Ziegler, Dieter. 1997. "Banking and the Rise of Capitalism in Germany." pp. 131-156 In *Banking, Trade and Industry: Europe, America and Asia from the Thirteenth to Twentieth Century*, ed. Alice Teichova, Ginetter Kurgan-Van Hentenryk, and Dieter Zeigler. Cambridge: Cambridge University Press.