

# Knot Policy Theory

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*This research note synthesizes the main theoretical frameworks in public policy. The concept of policy knots ties policy cycles, multiple streams, punctuated equilibrium, and other frameworks into one useful analytical tool. We introduce two particular policy knots—the granny knot and the clinch knot—to demonstrate the utility of the concept. As an illustration, we examine climate change policy in the United States in order to show the challenges of tying and securing a policy knot.*

**KEY WORDS:** punctuated equilibrium, advocacy coalition framework, public policy, agenda setting, climate change

After nearly two decades of mostly peaceful coexistence (Sabatier & Weible, 2014), scholars in public policy are increasingly dissatisfied with comparing and contrasting major frameworks, notably: the Advocacy Coalition Framework (ACF) (Sabatier & Weible, 2007), Institutional Analysis and Design (IAD) (Ostrom, 2009), Multiple Streams (MS) (Kingdon, 1995), and Punctuated Equilibrium Theory (PET) (Baumgartner & Jones, 1993). Calls for synthesis and cross-fertilization, even wholesale integration, have become more common (Cairney, 2013) and a reorientation toward other subfields is proposed (John, 2015). Inspired by an attempt to integrate policy process theories (Howlett, McConnell, & Perl, 2015), we offer a unifying concept and a bundle of theoretical mechanisms that tie major existing policy theories together: *policy knots*. We set the stage by reviewing the policy-weaving theory of Howlett et al. (2015). In the second act, we introduce policy knots and bind them to some of the major policy process theories. Finally, we use climate policy as a quipu for illustrating policy knot theory.

## Policy Weaving and Its Loose Threads

Howlett et al. (2015) lay out a weaving metaphor for integrating scholarship on the policy process that they argue converges conceptually and diverges theoretically. In developing the weaving metaphor, Howlett et al. fuse two grizzled veterans of policy process theorizing in the stages (Anderson, 1975; Lasswell, 1956) and multiple streams frameworks (Kingdon, 1995). While Howlett et al.'s patterning illuminates a different perspective on the synthesis of policy theory, we see deficiencies in the

metaphor's conformance to recent frameworks in public policy research. In particular, the weaving metaphor leaves open questions of policy stasis, endogenous change, and major disruptions in the pattern of policy and politics.

The weaving metaphor and its analytical treatment is an attempt to pacify the policy process literature by tying together strands of scholarship that are supposedly dueling for analytical supremacy. We contend that the weaving metaphor loses sight of the fact that extant frameworks of cycles and streams are already woven into the fabric of these extant theories. Thus, we argue that policy weaving is an insufficient metaphor for durable policy change. Rather than reweaving, we propose a counter theory of *policy knotting*. Policy knots tie problems, solutions, and politics tightly and snugly together, binding multiple strands of policy theory and more fully characterizing real-world knots. Policy knots secure policy change by tying and interweaving in a process we label "cinching."

The cinching of policy knots relates directly to a central weakness in the weaving metaphor. Weaving leaves the overall impression of a very fluid, methodical process of integrating strands of inputs to form policy fabrics. One imagines the skilled member of a guild weaving beautiful patterns in a rural setting. However, all extant frameworks of the policy process, including multiple streams and policy stages, are alert to the sometimes disjoint nature of policy dynamics as we lurch from near stasis to reform. In other words, the weaving metaphor leaves open the question of how the selvedge of the policy fabric is constructed—a knot, or more likely a series of policy knots, must be formed for durable policy change.

The ease of cinching strongly relates to many existing conceptual features of public policy. First, some policies for given issues, or considered in particular venues, are more easily cinched than others. Cinching policy knots around preferences and coalitions that form for mitigation of *climate variability* has proven considerably easier than cinching around the idea of human agency in *global warming*. Second, the ease with which a knot is uncinched is as important as the ease with which it is cinched. Disentangling the strands of a policy knot relates to how path dependence bears on policy outcomes. In other words, policy knots whose cinching cannot be untangled, but must be cut completely, tell us much about how both the agenda setting and policy formulation stages of the policy process are constrained by policy knots at critical junctures. Further, policy knots that "lock in" preferences of the tying coalition and must be cut if change is desired, also lock in the very same disjoint policy dynamics discussed above and in the wealth of literature on public policy. In other words, punctuated change results from knots cinched so tightly that they must be cut.

Another weakness of the weaving metaphor is its lack of characterization of endogenous or emergent policy change and stasis. As anyone with laced shoes who has walked through brushy areas at night can attest, very small perturbations in the "undergrowth" of a policy area may produce emergent policy knots of incredible intractableness. When one considers the positive feedback associated with a particular strand being slightly out of place or looped wrongly, it is clear that not only can a policy knot emerge, completely absent concerted effort by a weaver, but that positive feedback might produce a knot that cannot be modified, and must be cut. In other

words, the weaving metaphor, with its orderly loom, gives the somewhat false impression that the path to policy fabric is clear, and in the words of Herbert Simon, “decomposable” (Simon, 1962, 1996).

Finally, in a point related to the discussion of cinching above, we argue that the weaving metaphor is better able to describe policy change than policy stasis. We believe any metaphor of the policy process must capture both dynamics of policy change. Policy knots handle policy stasis descriptively very well, and when augmented by our notion of cinching, relate directly to the types of lurching policy dynamics that are observed the world over in the literature on public policy. In particular, we introduce the idea that some policies are characterized by granny knots—policy knots so entangled that they guarantee stasis until completely cut away.

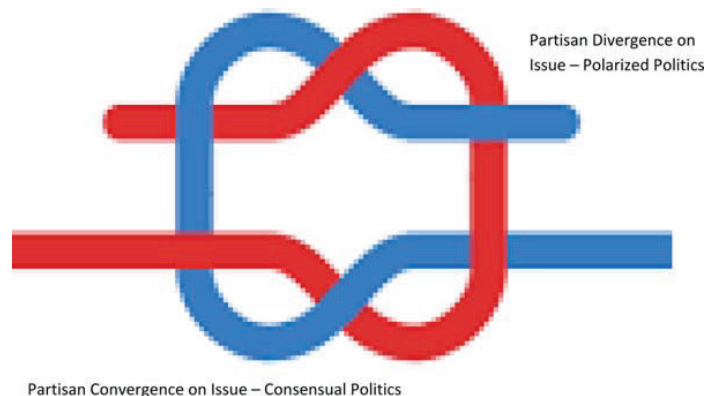
### **Policy Knots and Their Relation to Major Policy Theories**

Windows of opportunity emerge with the availability of new threads (issues), new weavers (entrepreneurs, changes in government), or new looms (new institutions or alternative venues). New threads are often the result of frayed or broken threads from previous knots. Broken threads become the beginning for new policy knotting—the “bitter end”—while still-knotted threads provide stability to governments (these are termed “standing ends”). Policy knots experience friction if the fabrics woven together are abrasive—such as when agency missions fail to match the goals of policy. Policy knots also experience friction when multiple actors attempt to retie knots or pull in multiple directions on the same knot—these knots can become difficult to untie over time making them impervious to even the most minor tinkering (this is the policy granny knot, aka gridlock). A short discussion of granny knots in policy illuminates key characteristics of policy issues as they relate to partisan alignments and institutional gridlock. Figure 1 displays the policy granny knot.

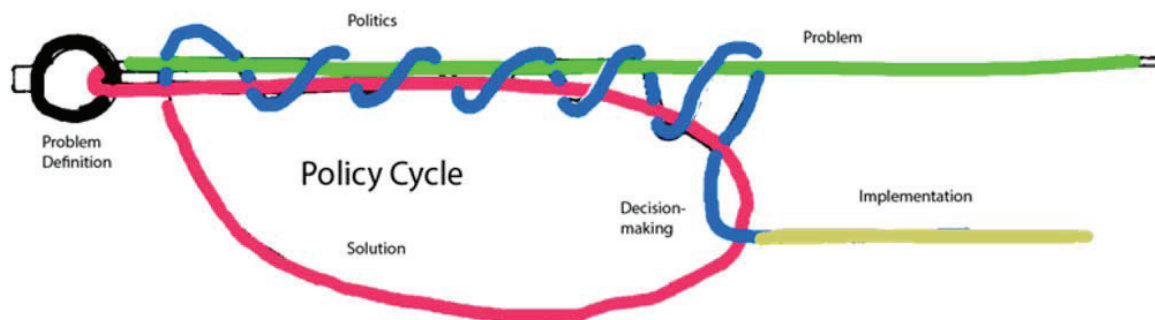
Policy granny knots have the curious property of “keeping the ends out for the ties that bind” (Cash, 1956). That is to say, granny knots adequately describe both issues for which there is vigorous partisan agreement and those for which there is intense partisan conflict. Both of these configurations of issues and partisan alignments lead to granny knots and hence difficulty enacting policy reforms.

Given the politics of policy granny knots, issues exhibiting both high degrees of ideological uniformity and those exhibiting extreme conflict are difficult to reform. In the case of the former, elite ideological agreement on the course of policy means that the agenda for change is highly constrained and that path dependency is likely. In the case of the latter, the policy granny knot is cinched by partisan and ideological polarization, making policy reform impossible outside of cutting the knot—major institutional change. Policy granny knots are a particular class of models derivable from a more general approach to policy knotting.

The theoretical strength of our approach is that problems, solutions, and politics can be tied together in nearly infinite ways but with the same goal—securing policy change. We outline a simple model of how policy knots can come together. Figure 2 provides but one illustration of how a theory of policy knotting can be applied to the policy cycle, aka the stages heuristic. Many versions of policy theory may, in fact,



**Figure 1.** Illustration of the Policy Granny Knot with Typical Issue and Partisan Alignments.



**Figure 2.** The Policy Knot Metaphor as a Clinch Knot and the Policy Cycle.

view the policy process not as an attempt to continuously weave solutions into the future, but, rather, cinch down issues to clear agenda space for other solutions chasing problems.

Policy knotting subsumes all dominant schools of policymaking and theorizing. As the clinch knot in Figure 2 illustrates, policy knotting unifies insights from the policy cycle and MS framework. Punctuated equilibrium theory (Baumgartner & Jones, 1993; Baumgartner et al., 2009) is a subset of policy knotting where tight policy knots can be loosened up and then reconfigured into new knots (“shoelacing”). Shocks in PET can result from “jammed” granny knots finally being loosened, or broken, or cut away. Such knots are often “capsized”; that is, versions of policy that no longer resemble the preferences of the current policy positions. Capsized knots can be purposeful as the result of different subsystem politics or accidental because of a number of actors constantly tugging at different threads. Negative feedback results from subsystem actors attempting to improve knots before they capsize in a process known as dressing. However, in many cases, knots are ill-dressed and knots capsize leaving the thread to experience extreme tension. The point at which the string breaks can be thought of as the “bite” and it is here that new knots can be formed through splicing.

Policy knotting can be interlaced with the advocacy coalition framework. Coalitions—typically two, but sometimes more—act on different strings in the knotting process. Over time, coalitions learn how to tie different types of knots, or how to disrupt the knots of other knotters. Coalitions can converge to produce mutually preferred knots—or blood knots. Successive iterations of successful policy knotting

avoid the devil shift to produce a tapestry of knots associated with policy learning. Ultimately, coalitions can learn to produce a complex, long-term policy agenda not unlike a friendship bracelet.

Policy network models (Kenis & Knoke, 2002; Rhodes, 2008) are a natural extension of policy knots; they are characterized by multiple knots, some of which define the border of the policy domain while others provide the quilting, the central and binding nodes of the policy knot network. Different knotting strategies can produce stronger or weaker networks. Indeed, sociological work (Granovetter, 1973) even claims that weak ties in networks can produce strength.

As is described, policy knot theory is not a weaving theory, but one that intends to understand different types of threads and the machines that weave them. The concept of power is “loosely coupled” almost as an afterthought in the “weaving” framework of Howlett et al. (2015, p. 11); the metaphor then describes different “hands”—it would seem that in uniting frameworks of policy, the framework has not made the tough choices in deciding how a scholar might go about employing the framework. A theory of policy knotting incorporates the concept of power as the capacity of actors to pull tightly on various threads within the policy process. Stronger actors are better able to knot policy fabrics with coarser materials or create more intricate policy tapestries with multiple strings. Strong structural knots become the selvedge of “policy regimes” (Jochim & May, 2010)—that is, the boundary that defines different woven products from thread.

Complex policies (Weber & Khademian, 2008) can be understood through the lens of multiple weavers working in concert to knot several related, but disparate, threads or fabrics together. We term the application of knotting theory to complex policies “quilting,” which can be used to understand the mosaic of policy working on wicked problems. Key policy entrepreneurs can couple together different selvedges—we call such threads “weft.” Thus, policy knotting can be used to understand the difficulty in crafting policies with a sufficient number of knots to produce a result that really ties the room together.

### Policy Reform

Much of this theoretical exercise has focused on the tying of new knots or the cutting of old knots to make room for new knots. Indeed, policy reform is missing from “weaving” metaphors; this is likely because reform is viewed as policy change like any other. However, policy reforms are a substantively important type of policy change that must be explained by policy knotting. We explore the possibility of untying knots to retie (or “fix”) problems left by improperly tied knots or knots that bind future knot-tying activity. These can be thought of as reforms—or “reties”—to policy rather than overhauls. As Patashnik’s (2008) work notes, the reform process is a significant challenge for governments given the difficulty in untying existing policy arrangements, but also retying knots that are sufficiently strong to endure new pressures placed upon them.

Untying a policy knot is dependent upon two general foundational features of the knot: the thickness of the strings and the form of the knot. Thicker strings are easier to

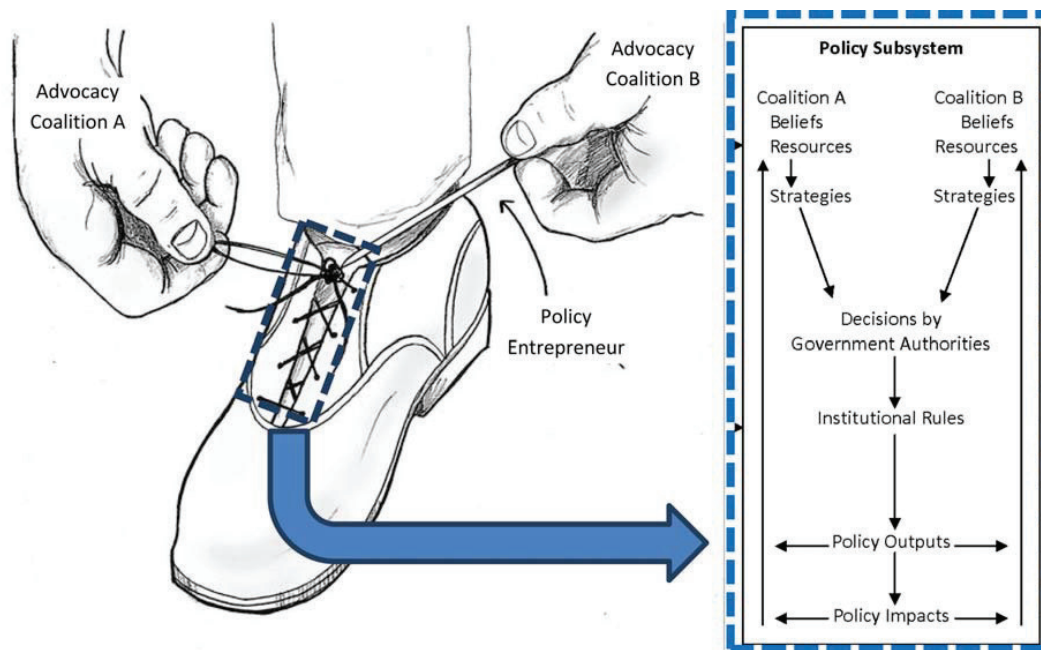


untie than thin strings; in this case, string thickness is related to the number of different interests that are represented in the policy knot. Thinner strings represent narrower subsystems where few interests can dominate policymaking; in these cases, it is far easier to simply cut the knot and begin again at the bitter end than attempt an untie. Thin string knots are in keeping with punctuated equilibrium theory, which suggests that these sorts of knots must be cut given their distance from the status quo. Thicker strings are seen often at the international level with nonbinding resolutions at the United Nations—even binding resolutions ultimately are the result of serious compromise that sovereign nations can choose to ignore (particularly powerful nations).

Second, the form of the knot is a challenge for any entrepreneur attempting reform given the nearly infinite number of knotting techniques that exist in policy design. As policies are implemented, pressures build on knots to get tighter and eventually knots capsize into some derivative of the initial knot. For example, the Clean Air Act (CAA) has been recently interpreted to include carbon dioxide as a hazardous air pollutant given its capacity to contribute to global warming thereby empowering the Environmental Protection Agency (EPA) to regulate greenhouse gasses. The original knot (CAA of 1972) has been tightened by environmentalists such that the current knot, while still retaining the overall knotting technique of the original, is capsized into a stronger knot. Untying the CAA policy knot is simply unthinkable; new methods of addressing climate change in the United States depend upon tying entirely new policy knots comprised of different thread thicknesses (constellations of interests). These interests promote thicker threads given their relative ideological distance—environmental groups, utilities, and energy providers must work together to form new climate change legislation. Agreements are likely to be less binding if for no other reason than the material with which the knot is tied will be easier to untie.

However, real reform is possible—even in the cases of multiple types of knots, using thin thread, that are pulled to the point of capsize. Skillful entrepreneurs can navigate untying these series of knots through the use of unique tools, brute force, and agreeing to tie particular knots for specific parties. Ultimately, there is no exact way to untie a knot, but this does happen. Rather than pulling, entrepreneurs can attempt to encourage stakeholders to push on their sides of the knot in unison. Some type of tool—such as forceps, pliers, even a bamboo skewer (metaphorically speaking, see Figure 3)—can be used to leverage interests away from bound positions. In some cases, attacking the policy knot with a barrage of brute force—such as significant media pressure—can loosen the knot enough such that a tool can enter a crevice to begin the untying process (e.g., presidential detailees to congressional committees).

Successful reties result from unique knots that distribute knot-tightening across multiple actors; moreover, these knots are also tied using fabrics that stay tight. One of the challenges of reforming public policy is that arguments made in favor of reties are often that the policy process in general should be made amenable to changes over time. Thus, reformers will allow for clauses in legislation to review the knotting process in the future—analogueous to the “highwayman’s hitch” and other “self-untying knots.” That is, opportunities to unravel the entire policy exist in the future so as to curry favor with skeptical members of the legislature. In the United States, these are often referred to as “sunset clauses” and are shown to be effective in



**Figure 3.** Untying a Particularly Hard Knot Using an Unique Policy Tool. This Figure Ties in the Advocacy Coalition Framework into the Knot Policy Theory to Describe How to Leverage Challenging Knots.

Source: Hageman (2013).

building consensus, but also in totally unraveling reforms (see, e.g., the assault weapons ban of 1994).

The passing of the Affordable Care Act in the United States illustrates the process of untying and retying policy knots. The Obama Administration was able to convince the insurance industry to push on the ends of their policy strings in addition to most members of Congress in the Democratic Party. Specific members of Congress—for example, Ben Nelson—were offered particular knots of their own to lend their support. Of course, the reform was imperfect—the Tea Party emerged on the scene to provide pressure to the extant knot of American health care policy such that total reform was impossible. The policy was designed to constrict each knot over time—particular provisions were tightened right away (such as children up to 26 years of age staying on their parents' health-care plans), while others took longer (such as the “Cadillac tax” on health-care plans). Republicans in the House have attempted to untie the knot repeatedly (six votes to repeal it in its entirety; 54 votes to repeal particular provisions), but the knot is too strong. Even still, Republicans attempted to unravel the entire knot, which hinged greatly on the highwayman's hitch of the individual mandate by suing the federal government in the Supreme Court. Thus, far the hitch has held; continued failed attempts meet with renewed resistance making a retie of this knot (the Republican “repeal and replace” strategy) less politically viable.

### A Quipu of Climate Change Policy

At this point, our policy knotting framework is nascent such that no particular research design is appropriate, but patterns of policymaking emerge from illustrative

examples. Climate change policy in the United States—as well as globally—is a particularly wicked problem, the solutions to which have been at times *ad hoc* and otherwise coordinated through organizations that advocate for subnational solutions to climate problems (Hoffmann, 2011; Nelson, Rose, Wei, Peterson, & Wennberg, 2015). We can think about this as a “quipu,” which is a rope with knots, color-coding and off-branching cords—in other words, knots that are tied in a quipu are independent strands of policy (subnational efforts) that reside along the same broader rope (global climate change). Specific to the United States, federal intervention has been late in coming and has derived authority from an interpretation of carbon dioxide as a “hazardous air pollutant.” Such status allows for the federal government to regulate carbon dioxide under the CAA and subsequent amendments; however, many legal and policy scholars have suggested that this is an imperfect mechanism by which to address a problem that is bigger than simple air pollution. Moreover, as Rabe (2011) has noted, the issue of federal intervention is a growing intergovernmental quagmire given that the supremacy clause of the U.S. Constitution allows for the federal government to displace extant state law. Arguably, an interpretation of climate change regulation as authorized by the CAA places federal intervention generically in front of state intervention (excepting, notably, the California Air Resources Board). However, should a new statute specifically designed to tackle climate change be created in the United States, there is precedent for state laws that predate federal environmental policies to apply for waivers that enable states to enact stronger policies in the future. The current system of compensatory federalism (Derthick, 2010) is one that can be viewed through the policy knot framework.

The case of climate change policy at the national level in the United States is a demonstration of a tight “granny knot” from partisan divergence on what is a wicked problem. Partisan polarization tightens the granny knot of inaction; so, multiple inferior knots are tied by multiple hands (states) to put together a quilt of policies that are inferior to a simple knot from problem (climate change) to solution (federal climate policy). A new unified climate policy would be stronger than all these knots combined—directly providing a connection to the selvages of other policy fabrics. However, the new policy would likely have to deal with a series of knots that impede direct policy knotting—for example, CAA interpretation, state-level climate actions, local climate action plans—the new federal knot would require in part that these smaller knots be dealt with (Engel, 2009). In many cases, the knots at the subnational level do not share the characteristics of the granny knot—partisan divergence is not strong; the hands pulling the knots do not need to exert much effort because of general agreement; and, in many cases, the knots are intended to move somewhat (subsequent interactions of the policy knotting framework might look into this phenomena we tentatively call “slipknotting”). Some extant subnational climate change policy knots may be untied; others that have been made in the absence of a stronger policy knot may create weaknesses at the bite of the string. Breaking existing bites will lead to bitter ends in search of new linkages—that is, governments have layered a series of environmental goals within climate action plans; if those plans are superseded by a federal policy plan, and these knots are broken, then, new knots related to these environmental goals may be tied.



Ultimately, the goal for federal climate policy—like all policy areas—is to create a knot so strong that people will not attempt to break it and other knots can follow that work toward the same goal. Occasionally, these holder policy knots can be pulled to the point of capsizing—that is, the knot no longer resembles its previous self or is unfit for future tasks. In extreme cases, this can lead to a “rat’s nest.” The extension of the CAA to climate policy can be thought of as a capsized policy knot—certainly, this is a possible use for this knot, but such stretching makes the knot vulnerable to fraying in the future.

### Conclusions

We must be careful when tying these knots (Meier, 2009). We must be careful when applying knot theory or weaving theory or any other theory that attempts to master complicated theoretical strands of fabric to fit particular goals of creating the same pattern of the policy process over and over again (Sabatier, 1991). Tying too many knots can lead to the dreaded “tangle”—which is not a term relevant to policy, but to the *attempt* to understand the policy process itself. The policy process is exceedingly complex in reality. To grapple with this complexity, early versions of policy theory simplified this process and provided the initial foundation upon which future theories might be indebted. Uniting complex policy theory under a grand unified vision is more likely to tangle than to clarify.

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