

Kingdon's Multiple Streams Approach: What Is the Empirical Impact of this Universal Theory?

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While John Kingdon's Multiple Streams Approach (MSA) remains a key reference point in the public policy literature, few have attempted to assess MSA holistically. To assess its broader impact and trends in usage, we combine in-depth analysis of representative studies, with comprehensive coverage of MSA-inspired articles, to categorize its impact. We find that Kingdon's work makes two separate contributions. First, it has contributed to the development of "evolutionary" policy theories such as punctuated equilibrium. Second, it has prompted a large, dedicated, and often empirical, literature. However, most MSA empirical applications only engage with broader policy theory superficially. The two contributions are oddly independent of each other. We argue that these trends in application are due largely to its intuitive appeal and low "barrier to entry." Drawing on other policy approaches, we offer suggestions to improve the MSA-inspired literature.

KEY WORDS: Kingdon, multiple streams analysis, policy theory

Introduction

There is little doubt that Kingdon's *Agendas, Alternatives, and Public Policies* (1984) remains a key influence on the study of public policy. There is more doubt about what *kind* of influence. Does Kingdon's Multiple Streams Approach (MSA) provide a set of methodological tools to guide research? Does it underpin the development of modern policy theory? Does it prompt us to pay attention to certain aspects of the policy process, such as agenda setting, or concepts such as "ideas"? Or, is it simply a study that is much admired and cited (over 12,000 times), but in a rather superficial way?

There is not "one best way" to evaluate MSA. For example, some see Kingdon's approach as a work of art or appreciate the flexibility it offers to scholars and their students when they engage in case study-based empirical work. However, we seek to go beyond this focus on its use for individual scholars to consider its broader value to the profession.

We find that MSA has made important contributions to policy theory, and to the empirical literature, but that these contributions remain remarkably separate. This separation has resulted from the interplay between two characteristics of MSA. First, Kingdon identifies what we call “universal” policymaking issues that can arise in any time or place. Kingdon’s study focused on one place (the United States), time (the post-war period up to 1980s), and a small number of policy areas (health and transport). However, it (a) is built on the “garbage can model” (GCM), which is so abstract that its insights extend well beyond its original focus of study (the University); (b) presents a streams metaphor that is flexible and simple to apply; and (c) develops concepts that could apply to any case study, including the role of bounded rationality and the process of choice in the face of uncertainty and ambiguity.

Second, the “barrier to entry” is low compared to other policy process approaches such as the Institutional Analysis and Development Framework (IAD) (Ostrom, Cox, & Schlager, 2014), Punctuated Equilibrium Theory (PET) (Baumgartner, Jones, & Mortensen, 2014), and Advocacy Coalition Framework (ACF) (Jenkins-Smith, Nohrstedt, Weible, & Sabatier, 2014). The MSA gives users unparalleled flexibility: there is no need for a detailed codebook, to test hypotheses, or advance general policy theory. Researchers can read one book (or a couple of chapters) and generate a theoretically informed and publishable empirical case study.

To demonstrate this argument, we compare the theoretical and empirical contributions of MSA. To identify its theoretical contribution, we identify its main “universal” concepts, discuss how MSA combines them to explain a key part of the policy process, and explain how it has contributed to other policy theories and debates. In particular, by tracing contemporary “evolutionary” theory back to MSA, we identify its strong and direct contribution to PET, and wider (but less direct) links to new institutional thought. Second, to complement Jones et al.’s (2016) large, quantitative assessment of the literature, we use in-depth analysis of a smaller but substantial number of hand-picked best-case representative studies of MSA to provide an additional assessment of its overall contribution to public policy. We produce qualitative analyses of the MSA literature, to identify and categorize the types of applications produced since 2000, and use Jones et al.’s (2016) study as an external validity check.

Combined, these exercises allow us to provide a standard to gauge the theoretical sophistication of the empirical literature. MSA should be lauded for its flexibility and ability to inspire empirical work. However, we argue that MSA only makes a meaningful theoretical contribution if newly inspired scholars use MSA in a nontrivial way. Our theoretical discussion provides two “bars” to gauge MSA progress. If we set a high bar, we argue that a significant proportion of the applications should include some recognition of the wider theoretical context in which scholars should understand MSA. Many linkages are possible: they do not have to identify the same as us—between MSA and other “evolutionary” theories such as PET; but, they could at least refer to the wider literature. A key aim, particularly in the latter case, is to provide clarity to descriptions of MSA (including its constituent parts), and explore its strengths and limitations, by comparing it with other theories. Scholars should not only identify broad and often vague linkages across disparate literatures but also

identify how their insights can be combined, in a meaningful way, when they seek to explain case studies (Cairney, 2013b)—a point that we make, in particular, when discussing new institutionalism. If we set a lower bar, we should expect, *at a minimum*, that applications show a comprehensive knowledge of MSA's concepts (as we set out in the following section) before the authors apply them. Jones et al. (2016) already find that the majority of MSA-inspired articles only use Kingdon superficially. Our study suggests that, even in the smaller "best case" literature, the number of theoretically sophisticated publications reaching the high bar—in the way we have described it here—is small, and that some applications do not even meet the lower bar.

On the more positive side, we identify a small body of work which seeks to make theoretical and empirical contributions, mostly by modifying MSA to fit applications to subnational and/or non-U.S. case studies. Yet, there is not the same sense of coordinated theory development or application associated with approaches such as the IAD, ACF, or PET. Consequently, we consider what could be done to make the study of MSA more systematic.

MSA's Theoretical Contribution: 1. Universal Concepts

Kingdon's MSA can be viewed as a critical component of a broader literature on "ideas" (Baumgartner, 2014; Cairney, 2012a, pp. 182–87, 279; Hall, 1993, pp. 291–92; Jenkins-Smith & Sabatier, 1993, pp. 44–45; Kettell & Cairney, 2010, p. 301; Majone, 1989, p. 2). Kingdon draws on Cohen, March, and Olsen's (1972) GCM of policymaking in organizations to study the U.S. political system. He focuses on how ideas become solutions to policy problems (Cairney & Weible, 2015), challenging the phrase, "an idea whose time has come," to show the importance of receptivity to policy solutions within policy networks. The GCM helped Kingdon identify several elements of the policy process that we describe as "universal" because they are abstract enough to apply to any case study:

1. Ambiguity (there are many ways to frame any policy problem);
2. Competition for attention (few problems reach the top of the agenda);
3. An imperfect selection process (new information is difficult to gather and subject to manipulation);
4. Actors have limited time (which forces people to make choices before their preferences are clear); and,
5. Decision-making processes are neither "comprehensively rational" nor linear.

Policymaker aims and policy problems are ambiguous and interested actors struggle to research issues and produce viable solutions quickly. Sometimes people wait for the right time to present their pet solutions. Sometimes policymakers just want to look busy and decisive. So, problem identification, solution production, and choice are "relatively independent streams" (Cohen et al., 1972). Kingdon adapted this policymaking metaphor to argue that three separate "streams" must come

together at the same time—and they must do so during a brief “window of opportunity”—for policy to change markedly:

- *Problem stream—attention lurches to a policy problem.* Only a tiny fraction of problems receive policymaker attention. Getting attention is a major achievement which must be acted on quickly, before attention shifts elsewhere. A shift of attention may relate to a “focusing event” (Birkland, 1997) or the sense that a well thought out solution already exists.
- *Policy stream—a solution to the problem is available.* While attention lurches quickly from issue to issue, viable solutions take time to develop. Kingdon describes policy solutions in a “policy primeval soup,” evolving as they are proposed by one actor then reconsidered and modified by others, and a process of “softening,” as some issues take time to become accepted within policy networks. To deal with the disconnect between lurching attention and slow policy development, actors known as “policy entrepreneurs” develop solutions in anticipation of future problems, seeking the right time to exploit or encourage attention to their solution via a relevant problem (“solutions chasing problems”).
- *Politics stream—policymakers have the motive and opportunity to turn a solution into policy.* Policymakers have to pay attention to the problem and be receptive to the proposed solution. They consider many factors, including their beliefs, the “national mood,” and the feedback they receive from interest groups and political parties. In many cases, a change of government provides both motive and opportunity.

Although Kingdon focused on one country, time period, and two policy areas, the concepts and metaphor are “universal” in the sense that they have been shown to be flexible enough to be applied to nearly any place, time, or policy. The ways in which, for example, the politics and policy streams come together may vary from country to country (or in different parts of political systems), but scholars examining different cases have a common language in which to compare them. The streams metaphor is also simple enough for nonspecialists to understand, pick up, and use in empirical studies. This, we argue, is MSA’s first source of value (and one main explanation for its popularity).

Explaining the Policy Process and Contributing to Wider Policy Theory

MSA’s second source of theoretical value relates to its ability to explain a large part of the policy process and, in doing so, contribute insights to other theories. Peter John (2003, p. 487), for example, describes MSA as a “synthetic” theory because it integrates core aspects of the policy literature to explain the role of five main factors: “institutions, networks, socioeconomic processes, choices, and ideas.” Although conceptualized slightly differently, Cairney and Heikkila (2014, pp. 375–76) also analyze MSA along dimensions of actor choices, institutions, networks, ideas, context, and events to suggest that MSA has made important contributions to policy theory.

While some factors are conceptualized more than others, there is enough in terms of explicit framework building and implied relationships and variables that we can tease out the interaction between important elements of the policy process. In turn, this synthesizing facet of MSA allows scholars of public policy to compare the approach with other theories or approaches (such as ACF, IAD, and PET), to generate a greater sense of how it fits into the policy theory literature, and to consider if its insights might be combined with those of other theories (Cairney & Heikkila, 2014, pp. 382–84).

MSA's Key Contribution to Evolutionary Policy Theory

One of MSA's key theoretical contributions is to the development of "evolutionary theory," which includes PET (note that Kingdon was once a mentor to Baumgartner), complexity theory (discussed at greater length by Kingdon in the postscript to his second edition, 1995), and has important links to studies of new institutionalism (John, 1998, 2012). Evolutionary policy theories seek to explain how and why particular environments operate to help produce specific kinds of policy change and stability, and how actors, such as "policy entrepreneurs," adapt to or help shape their environments (Cairney, 2012a, 2013a; Mamudu, Cairney, & Studlar, 2015). The distinction between actors and environments becomes crucial, since one can explain "evolutionary" change in different ways, focusing primarily on the role of environments, providing opportunities and constraints for actors, or on entrepreneurs redefining or adapting to their environments in ways that give them advantages over other actors (Kingdon was one of many scholars to use "policy entrepreneur" quite loosely—on the many meanings of entrepreneur in policy studies, see Cairney, 2012a, pp. 271–72).

Kingdon's "Darwinian" metaphor describes the time and effort it takes for feasible policy solutions to develop; they whirl around in the "policy primeval soup," proposed by one actor then "softened up" by others to "recombine familiar elements" and change their "technical feasibility," "value acceptability," or anticipated costs (1984, pp. 138–46; 1995, pp. 226–27; Cairney, 2013a, p. 281). "Evolution" describes the cumulative, long-term development of policy solutions; the slow progress of an idea towards acceptability within the policy community. It is complete when policymakers are receptive to the solution and have the motive and opportunity to adopt it (Kingdon, 1995, pp. 165–66; R. C. Lieberman, 2002, p. 709). Policy changes, but only when new solutions are made more consistent with existing practices. The role of "policy entrepreneurs," employing trial-and-error strategies, is critical. However, entrepreneurs are also limited by their environments. Entrepreneurs within Kingdon's Darwinian metaphor are best understood as the well-informed and well-connected insiders who provide the knowledge and tenacity to help couple the "streams"; yet, they cannot do more than their environments allow. They are "surfers waiting for the big wave," not Poseidon-like masters of the seas (Kingdon, 1995, p. 225; 1984, p. 173; compare with Lustick, 2011, p. 204).

This idea has foundational links to PET, even though Baumgartner and Jones (1993, 2009; Jones & Baumgartner, 2005; True, Jones, & Baumgartner, 2007; Workman, Jones, & Jochim, 2009) provide some challenges to Kingdon's conclusions (Cairney, 2013a, p. 282). PET provides a modified conception of evolutionary policy processes, relating to the major disruptions in the way that policymakers think about, and try to solve, policy problems. Specifically, "punctuated equilibrium" refers to long periods of political stability and policy continuity punctuated by instability and rapid change (Cairney, 2012a, pp. 177, 273). Baumgartner and Jones (1993, p. 48) argue that incremental change in most cases is accompanied by seismic change in a small number of cases (Baumgartner & Jones, 2009, p. xxii). Both outcomes result from "disruptive dynamics," which "are a function of how political systems process information" (2009, p. 289).

Like Kingdon, Baumgartner and Jones begin with the assumption of a boundedly rational actor (Simon, 1976) where policymakers are understood to have limited time and imperfect information, and settle on their impressions of the best choice given these constraints. They are unable to consider all issues at all times. Despite their much larger capacity, the same can be said of policymaking organizations. The boundedly rational actor assumption allows evolutionary models such as PET to model institutional-level attention as a driving force of public policy, which is at least metaphorically similar to the idea of natural selection found in evolutionary theory within biology. Based on scarce attention, only a small number of ideas or policy problems may rise to the top of an agenda, which limits what is dealt with at the "macropolitical" level (True et al., 2007, pp. 158–59). This lack of attention to issues helps explain why most relationships within policy subsystems are static most of the time, and how intense periods of attention to some issues may destabilize existing subsystem relationships to prompt evolutionary punctuations, and—potentially—policy change (Jones & Baumgartner, 2005, pp. 19–20, 48–51).

Baumgartner and Jones (2009), thus, describe a different type of evolution than Kingdon in which major change follows huge lurches of attention and action. There may be a longer term process of solution production and "softening" (as described by Kingdon), *but this appears to be less likely to constrain action*. Rather, more radical change will be acceptable in venues that are less committed to existing policies and, therefore, less in need of softening (Baumgartner & Jones, 1993, pp. 32–33). Kingdon's picture of slow progress producing partial mutations is replaced, in some cases, by Baumgartner and Jones's fast, disruptive, pure mutation. In some cases, the policy stream does not act as a means to slow down policy change, and the "window of opportunity" for the three streams to couple may have distinctive features. This phrase "in some cases" is important, since Baumgartner and Jones do not set out to reject Kingdon's approach and, in many respects, the two approaches can operate side-by-side as different ways to interpret events. In any case, it is clear that evolutionary conceptions of policy change in Kingdon's MSA are vital to related conceptions in PET.

*Identifying Meaningful Links to the Wider Literature Is Fruitful
but not Straightforward*

It is possible to use PET as an *alternative* to MSA, or to *combine* their insights by using more than one theory to explain a case (Cairney, 2013b). The latter requires careful comparison based on extensive knowledge of each theory—a task made possible by relatively high levels of clarity on their respective positions. Other comparisons between MSA and alternative approaches may be as valuable, but it takes more work to clarify the linkages—to determine if they only use different terms to describe the same phenomena, or if they describe different things or provide different (and perhaps competing) kinds of explanation.

Take, for example, the important similarities and differences that exist between MSA and “new institutionalism” (also note their links to complexity theory¹). Like MSA, new institutionalism conceptualizes the difference between stability and instability, or incremental and major change, to explore how we can identify, measure, and explain change in policies, institutions, and processes. However, we need to clarify the *specific* use of these concepts within MSA by identifying key differences between how MSA and new institutionalism employ them. For example, Hall’s (1993) analysis of “third order” change is a significant departure from Kingdon: the MSA process of “softening” is not necessary because the “old guard” is replaced by the new (Cairney, 2013a, pp. 283–84). Yet, this process is rare, dramatic, and *system-wide*—which does not capture most *subsystem-based* case studies of MSA (Cairney & Weible, 2015). The more directly comparable aspect of new institutionalism describes and explains *gradual* institutional and policy changes (Béland & Cox, 2010; Blyth, 2002, p. 7; Hay, 2006; Hay & Wincott, 1998; Palier, 2005, p. 129; Schmidt, 2010; Schmidt & Radaelli, 2004; Streeck & Thelen, 2005, p. 9; Studlar & Cairney, 2014). Even so, it is not yet clear how exactly MSA relates to this literature; there is more work to be done to make the links crystal clear (along the lines of Cairney & Weible’s [2015] close comparative work). We raise this example to show the pitfalls of careless theoretical comparisons: although we recommend that scholars show how MSA relates to the wider literature, they should not do so if the linkages remain unclear during their study.

**From Theoretical Development to Modern Empirical Applications:
A Missing Link?**

Our theoretical analysis of MSA suggests that it contains “universal” elements and that MSA has been foundational in helping build key strands of policy theory. Another way we assess MSA is to look at how extensively studies outline MSA’s core concepts and how well they recognize and develop links between these concepts both within MSA and with external approaches. We recognize such linkages have been explored in great detail elsewhere by Nikolaos Zahariadis (1999, 2003, 2007). We take the most recent of these explorations, Zahariadis’s (2014) “Illustrative List of Empirical Research Using Multiple Streams Since 2003” as our point of departure.

To examine MSA's empirical applications in terms of broader theoretical impact we provide an in-depth qualitative analysis of 41 articles drawn mainly from Zahariadis' (2014) "Illustrative List."² We chose this list because the applications can be viewed as "best case" MSA articles: hand-picked by someone intimately familiar with MSA to demonstrate the promising state of the literature.

We qualitatively describe and code each of these studies in this article, and provide additional Supporting Information containing a fuller description and coding of each article. Below, we first provide some general descriptive statistics on the level of government identified in each study as well as the method used. Second, we offer seven categories that help us evaluate how well the studies: apply MSA concepts (and, thus, speak to the MSA literature), and engage policy theory more generally. We recognize that our seven categories are not the only way to structure such a review of MSA, and that generalizing from 41 articles is problematic. Consequently, as we move through our analysis, we provide references to Jones et al.'s (2016) meta-review of MSA as an external validity check on our findings. The Jones et al. (2016) study evaluated 1,933 MSA citations published since the year 2000 to produce a list of 311 MSA applications.

MSA Applications: Focus of Analysis and Methodology

MSA began as a study of U.S. federal policymaking, but the list shows a shift of focus:

- *National* (20). Ten study the United States; five examine EU countries; two study the United States and EU countries; and there is one study each of Canada, China, and India.
- *Subnational* (13). Five are U.S. states, six are European studies (four UK, one Switzerland, one Sweden), and there is one each of Canada and Burkina Faso.
- *International* (8). Seven examine the EU and one the UN. Additionally, two of the "national" studies examine member states within the EU.³

To a large extent, this spread supports our argument that MSA provides "universal concepts"—only 10/41 follow Kingdon to focus on the federal United States, and 5/41 extend the analysis to the subnational United States, while the majority provide evidence of MSA's portability by examining other countries and levels of government.

Next, we coded the extent to which each MSA application employs the same methods as Kingdon. Kingdon (1984) applied largely interview (he conducted 240) and documentary analysis methods. Most of the MSA applications (22/41) follow the same path. However, 14 use theory and documentary analysis without interviews, 4 primarily use quantitative data (including one survey), and 1 draws on "direct experience." Jones et al. (2016) tell a similar story, finding 88 percent of the 311 MSA studies in their meta-review as qualitative, 5 percent quantitative, and 7 percent using mixed methods.

A Qualitative Assessment of MSA: Seven Categories of Applications

Conceptual Revisions to Address a New Object of Study (14 of 41)

Our first and largest category reflects the rising application of MSA to non-U.S. policymaking and/or non-national jurisdictions.⁴ This trend is a strong indicator that MSA is adaptive; conceptual revisions are taking place when changing MSA's focus from one theoretical "object" to another. In some cases, this change has necessitated a different understanding of aspects of MSA, including how ambiguity relates not only to problem definition but also to policymaking responsibility (as in PET's focus on venues—e.g., Ackrill & Kay, 2011) and how susceptible policy windows are to policy entrepreneurs given the level of government (e.g., Dudley, 2013). In other cases, conceptual revision has required the incorporation of outside literatures such as policy transfer studies (e.g., Bache & Reardon, 2013). Most importantly, some non-Western studies highlight important limitations to MSA when applied outside of the United States (e.g., Zhu, 2008).

The variation in levels of government and jurisdiction in which MSA is applied is impressive. Some show interesting overlaps between, for example, the EU and subnational studies (see also Ackrill, Kay, & Zahariadis, 2013). Six focus on the EU (3) or member states within the EU (3). Innovative adaptations of MSA include findings by Ackrill and Kay (2011) and Sarmiento-Mirwaldt (2013) that, in the EU, ambiguity relates not only to the practice of issue framing but also to uncertainty about which directorate is responsible for policy. The ability to frame issues provides the potential for policymakers or entrepreneurs to assert a primary jurisdiction or for interest groups to venue shop (a point discussed more by Baumgartner & Jones, 1993; see also Brunner, 2008; Cairney, 2006, 2007).

In other studies, adapting MSA to different conceptual objects, other literatures were needed to explain public policy. An important feature of Kingdon's work, and many U.S.-derived policy theories at the federal level, is that policy solutions generally arise in domestic settings. In most other countries, and subnational venues, there is a greater sense of learning and transfer of ideas from elsewhere—sometimes voluntary and sometimes under some degree of pressure. This has an effect on, for example, the requirement for "technical feasibility" and the time it takes to "soften" an idea. Six studies (four of the EU or member states in the EU, and two of U.S. states), focus on distinctive policy streams, reflecting the importance of policy diffusion or transfer. They highlight the role of a federal or supranational body, or a transnational policy community, at the center of the policy stream, suggesting that many solutions originate outside the political system under study (Bache, 2012; Bache & Reardon, 2013; Cairney, 2009; Liu, Lindquist, Vedlitz, & Vincent, 2011; McLendon, 2003; Zahariadis, 2004). In these cases, Cairney (2012a, pp. 269–71) suggests that the idea of a "policy transfer window" could help combine two literatures: MSA, which originally did not recognize this external role, and the transfer literature, which often focuses on *how* rather than *why* governments import policies.

Our analysis also shows that moving the MSA from the national conceptual level to the subnational level has produced theoretical revision. For example, three studies

of subnational policymaking (Dudley, 2013; Henstra, 2010; Oborn, Barrett, & Exworthy, 2011) suggest that a policy entrepreneur can be more effective at a smaller and/or more local scale of government. Lober (1997) also notes the distinctive MSA process that develops when governments form voluntary agreements with private companies.

Several studies produce interesting implications by moving the object of study from the more conventional United States and EU to little-studied areas of the world. Zhu (2008) examines the extent to which a policy theory derived from studies of the United States can be used to explain policymaking in China, while Ridde (2009) and Sharma (2008) identify the noncoupling of streams in Burkina Faso and India, respectively (although we count Sharma as part of the final category). Although there are only three cases, they suggest that, while some concepts travel well, in the sense that they can be understood and applied in other countries, there are limitations. In the China case in particular, Zhu notes the importance of technical *infeasibility* as a factor in change—which almost contradicts a key aspect of MSA. Such studies should prompt us to think about what we mean when we say that theories are “universal.”

This category maps well to Jones et al.’s (2016) MSA analysis. Many of their coded MSA applications study the United States (132), but European countries/the European Union are the most popular areas (205, including 53 in the UK), and 140 studies are outside the United States/EU (32 in Canada and 3 in Mexico), with 65 countries covered as a whole (the total is greater than 311 because there are many overlaps). Further, 35 percent of MSA applications study subnational policymaking “either independent of or in conjunction with national levels of governance” (2016).

The Combination of MSA and Other Theories: In-Depth and cursory Applications (8)

This is the first of two categories in which we can gauge the theoretical ambition of each study. This category provides a spectrum, of sorts, with, at one end, some applications using MSA in a meaningful way that shows knowledge of the theoretical context in which the MSA study is situated, and, at the other, MSA applications making more cursory reference to MSA alongside other theories. We place these studies notionally on a spectrum from in-depth to cursory mention of MSA and other theories: Birkland (2004) shows an appreciation of the links among MSE, PET, and social construction of target populations (SCTP); Jordan, Wurzel, Zito, and Brückner (2003) refer to ideas-based, institutional, and MSA accounts of policy transfer; J. M. Lieberman (2002) cites Kingdon as part of a wide-ranging conceptual discussion on the role of ideas and institutions; Mazzar (2007) discusses MSA alongside a wider appreciation of agenda setting and SCTP; Saint-Germain and Calamia (1996) briefly discuss incrementalism alongside MSA; Scheberle (1994) combines *some aspects of* MSA with Stone’s (1989) work on causal stories; and Keeler (1993) examines agenda setting but with an often-cursory reference to Kingdon.

Examining the analyses in Jones et al. (2016) and placing their study’s findings on a similar continuum is illustrative. cursory mentions were the norm for the Jones et al. study. Their analysis began with 1,933 MSA citations and reduced that number to 311 applications, indicating that 1,622 of the total citations of MSA since 2000 were cursory. On the other side of our continuum, where MSA is compared

to other theories, the Jones et al. (2016) study identified 83 of 311 studies that compared and/or integrated MSA with other approaches (ACF and PET were the most commonly integrated or compared frameworks). Further, 41 articles made the first cut (484 articles) but not the second because they cited MSA but were MSA theory-building pieces and not categorized as applications (2016). A closer look at these studies would likely find several that fall on the in-depth end of the spectrum in category 2.

MSA Applications with No Other Theories Mentioned (5)

In this category, an article *uses only the MSA* to structure and help explain policy change in a detailed case study, providing a relatively high degree of “fidelity” to MSA rather than challenging Kingdon’s analysis or suggesting conceptual revision. Chen (2011); Greathouse, Hahn, Okoli, Wornick, and Riker (2005); and Rossiter and Price (2013) use the streams approach to structure and explain case study results. Lipson (2007) discusses the UN and Nowak (2010) the EU, but neither focus primarily on the unusual nature of their object of study.

This category does not map directly to Jones et al.’s (2016) study. However, there are some indirect comparative measures. For example, most (88 percent) of the 311 articles in their study are based on qualitative case studies, while 34 percent of applications discuss “all five of the [MSA] concepts”—which (when cross-referenced with other criteria) might give an idea of the number of contenders for category 3.

Ad hoc Conceptual Revisions (5)

These are cases in which there is so much conceptual revision that the MSA becomes difficult to compare with the new approach. For example, Exworthy and Powell (2004) take MSA as a starting point, but argue for major revisions to reflect a different time (late 1990s) and focus (local, implementation). It focuses on streams, but changes their names and/or meaning, which makes it difficult to compare with the MSA (beyond the idea that separate processes may need to join together to ensure policy change or success). Sager and Rielle (2013) provide an unusual case of model development, which takes the GCM and turns it into something much more detailed, with a large number of conditions/independent variables. There is little discussion of MSA, and the three streams do not help structure or explain the results. Other examples include: Natali (2004), Guldbrandsson and Fossum (2009), and Borrás and Radaelli (2011).

Describing these five articles as conceptual revisions, which are difficult to relate to MSA, is a judgment call, and one that is difficult to code and apply to the whole literature. However, Jones et al. (2016) identify similar ways in which MSA has been modified to reflect “new concepts and subcomponents” added by individual studies (in 31 of the 311). This does not appear to be a set of coordinated revisions in the ACF mold (Sabatier & Weible, 2007). Rather, it seems to represent a less coherent

collection of *ad hoc* revisions by individual authors, with little or no attention to how these revisions connect to each other.

Studies that Test Hypotheses (3)

To qualify for this category in our coding, a study must have clearly articulated and tested hypotheses. Three studies qualified. Robinson and Eller (2010, p. 209), drawing on a survey of participants, argue that the problem and policy streams are not separate in their case study of violence prevention in Texas schools (the same people participate in each). Howlett's (1998) examination of the MSA in Canada, using quantitative data (akin to the attention data often gathered for PET studies), confirms the hypothesis that routine policy windows, following regular events such as elections, are far more common than others, such as random openings, which seem rare. Copeland and James (2014), drawing on interviews and documentary analysis, present an unusually high focus on operationalizing aspects of the MSA, but refer to "propositions" rather than hypotheses, and the propositions are still quite broad and often case-study specific.

Overall, there are few examples of hypothesis testing, and they do not examine the same thing, or use comparable methods, which makes it difficult to provide a sense of accumulated knowledge or a coherent research program (or, at least, one that would satisfy Sabatier, 1999, 2007—which, we recognize, is not the only way in which to gauge the value of MSA). Similarly, it is difficult to find many clear examples of hypothesis-testing articles in the larger literature, largely because the MSA often appears to be metaphorical and, although individual components can be operationalized, it is difficult to produce a "test" of the MSA (Jones et al., 2016). Jones et al. (2016) similarly find a low usage of hypothesis testing in their study. Of the 311 coded MSA applications, 80 had stated research questions and 39 had clearly articulated hypotheses.

*Accounts for Practitioners, Advocating Reform, or Providing Advice
on the Right Time to Propose Solutions (3)*

This category of studies is intended to capture MSA applications that are practitioner or advocate oriented. Only a small proportion of the illustrative list fell into this category—Avery (2004), Howie (2009), Pralle (2009). Moreover, this practitioner or advocacy lean does not seem to feature heavily in the wider MSA-specific literature identified by Jones et al. (2016). However, it is a growing feature of more practitioner-focused studies, in areas such as health, which seek simple lessons from policy studies without a detailed focus on policy theory (Cairney, 2015).

Work Which Cites or Engages Superficially with MSA (3)

This category should not be confused with studies treating Kingdon's work as one of many in the field (such as reviews of policy entrepreneurs), or with category 2

in which studies may cite Kingdon but compare MSA to another theory superficially. These are studies which refer *primarily* to the MSA as the guiding framework but engage superficially with the concepts while providing a detailed case study. In the qualitative study, this category includes only three studies: Zehavi (2008), Sharma (2008), J. M. Lieberman (2002). *However, this is, by far, the largest category in Jones et al.'s (2016) study.* To reduce their analysis to the 311 most relevant articles, they identified 1,622 publications which did not represent "applications" of the MSA. Even if we remove the 41 articles identified by Jones et al. (2016) as theory-building from this list that may be relevant, we still find that the vast majority of articles which cite Kingdon do not engage with MSA in a meaningful way.

Overall Assessment: A Coherent, Theory-Driven Literature?

MSA has prompted a remarkable number of studies, even if we reduce the large citation list to the smaller group of serious studies. Three hundred and eleven articles since 2000 eclipses the 111 empirical studies of SCTP (1993–2013) identified by Pierce et al. (2014), and the 80 ACF applications (1987–2006) discussed by Weible, Sabatier, and McQueen (2009) (although there are far more than 80 ACF studies in existence).⁵ The numbers alone challenge Sabatier's (1999) suggestion that MSA did not inspire many empirical applications. We concur with Jones et al. (2016) who state, "the study of MSA is prolific, global in reach, highly diverse, and very well received."

Further, as a group, our list of the "best of the best" of MSA yields insights into a literature raising important issues on comparative policymaking, with the potential for some new conceptual developments and innovations to arise. For example, we may revisit two discussions:

- How large are policy windows (Keeler, 1993) and do they open up to allow specific policy solutions, or major reform programmes?
- How specific are the solutions that couple with problems and politics? Several studies suggest that policy change can happen even though a vague policy solution has been produced and adopted. Consequently, a further process of coupling may be required (perhaps at another level of government) when a more detailed solution must be found (Bache, 2012; Bache & Reardon, 2013; Cairney, 2009; Exworthy & Powell, 2004; Ridde, 2009; see also Cairney & Mamudu, 2014). How can we conceptualize the process? Do we seek to conceptualize policymaking going on simultaneously in multiple arenas (Bache, 2012), treat "coupling" as the first stage in a policy cycle (Howlett, McConnell, & Perl, 2015), or identify a series of policy windows in different jurisdictions as key decisions are made at different points?

Yet, these questions (and many more like them) have to be pieced together from separate studies. In our assessment, therein is one of the major problems with MSA applications. Overall, our 41 MSA applications give the sense of a generally self-contained literature, populated primarily by isolated case studies where authors either: do not speak to the wider literature, present models that are difficult to

compare with others, or use MSA to focus on new objects of study. The number of theoretically informed studies, demonstrating a greater appreciation of the literature and the place of MSA within it, represents a small proportion of MSA-related activity.

Taking Stock of the MSA: Lessons from Other Theories

These “stock taking” concerns are not unique to multiple streams analysis. For example, the fact that Ostrom coauthored a book dedicated to exploring the challenges of scientific collaboration, to further the IAD, gives us an indication of the scale of the problem (Poteete, Janssen, & Ostrom, 2010). Similarly, when Weible et al. (2009, p. 128) analyzed 80 largely uncoordinated ACF studies, they found that most were *inspired by* the ACF rather than following their concepts or methods in a meaningful way. For example, 55 percent “do not explicitly test any of the hypotheses.” This is simultaneously a good and a bad thing: good because new studies may produce innovative ways to understand the world; bad because the continuous appeal to innovation and novelty undermines our ability to share and accumulate knowledge by using a common language. Scholars may appear to begin with familiar terms, such as IAD, ACF, MSA, or PET, only to pursue their own hobbyhorses with cursory reference to the original work (theories and methods) and subsequent studies on which they draw.

How do other scholars deal with these issues? We can detect some commonalities and differences between the IAD and ACF. Several IAD strategies include: limiting their focus to specific problems, creating a guidebook to applications (see McGinnis, 2011), forming networks, conducting meta-analysis, and producing special journal issues (Ostrom, 2006, pp. 4, 8; Poteete et al., 2010, p. 4; see *Policy Studies Journal*, 39(1), 2011, 1–186). The IAD has focused on seeking balance between control and innovation (Ostrom, 2006, p. 5). It has commonly agreed on standards (Poteete et al., 2010, p. 4) that, while providing basic expectations, also remain open enough to encourage diverse methodological approaches and theoretical innovation (Poteete et al., 2010, pp. 132, 249).

IAD authors have also produced large panoramic assessments of the framework via meta-analysis. Poteete et al. (2010, pp. 89–90, 111) discuss “narrative synthesis” as a way to conduct meta-analysis from multiple case studies (to combine their insights) when there is no clear way to systematically code the findings. The IAD encountered a very practical problem when the numerous studies, produced by diverse scholars applying varied methods and focusing on assorted theoretical elements of the framework, proved difficult to compare. “Narrative synthesis” has allowed the IAD to moderate this noncomparability problem by combining findings in a verbal rather than numerical way, allowing renderings of the development of a framework built on the insights of empirical work produced by multiple scholars using different methods (Poteete et al., 2010, pp. 111, 220–45).

Weible et al. (2011) do not devote a book to the issue of ACF research, but they promote similar ideas to the IAD. For example, Weible et al. (2011, pp. 351–52) limit their field of study by outlining “a set of assumptions, scope, and general

classifications and relations among key concepts" within the framework. The ACF's leaders often arrange workshops and special issues to foster collaborative work, but this perhaps accounts for the minority of work produced under the ACF umbrella—some of which may be published before it is well known to Weible and colleagues.

Weible et al. (2009, p. 125) use the term "taking stock" and their findings include: methods vary significantly and many are unspecified (the most specified methods are interview and content analysis); most studies do not explicitly test ACF hypotheses; many hypotheses receive minimal attention; and many scholars "largely overlook many components of the framework"; many combine studies of the ACF and the "stages heuristic" (Sabatier was particularly critical of the unscientific nature of policy cycles approaches) (Weible et al., 2009, pp. 126–34). Their analysis was followed by a plea for more rigor, to: specify methods in ACF studies, show a greater understanding of the ACF's causal mechanisms, and reject the "faulty assumptions underlying the stages heuristic" (2009, p. 135). In other words, they highlight the great potential for work, operating under the ACF banner, to present studies, methods and findings that are anathema to the original or current team.

Only some of these problems are overcome in well-coordinated special issues, partly because Weible et al. (2011, p. 355) seek to encourage "new areas of inquiry" and "the opportunity to carve out theoretical niches and to explore and develop these niches over time." All they ask is for scholars to work within the ACF's general assumptions and "practice diligence toward transparency in methods and analysis to permit comparisons across case studies conducted by different researchers."

A third approach, associated with PET and the Policy Agendas Project, is to develop an online database (<http://www.policyagendas.org/>) and codebook that can be used for comparative studies. It is guided by the original authors, often aided by research assistants travelling to help new teams, but used by independent teams in a range of countries. This approach helped produce the idea of a "general law of public budgets" when the same basic budget distribution was found across time and jurisdiction in the United States and in seven other countries (Baumgartner et al., 2014, pp. 76–77). The original authors have also coauthored a significant proportion of PET studies, although it has dropped as the literature has grown, and they have relied more on coordinated networks underpinned by the PAP database and the use of special journal issues (Baumgartner et al., 2014, pp. 87, 93).

Unfortunately, it is difficult to see how these three experiences can guide the study of MSA, whose original architect played a minimal role in theory development and coordinating empirical applications (beyond producing several editions of his book). Nor can it address our wider point about MSA studies being rather self-contained.

Given what we have argued here, how should MSA proceed? One argument is that good policy science is usually produced by specialist teams that show clarity in their aims and focus intensely on one understanding of the policy process (Cairney & Heikkila, 2014, pp. 383–85). Or, it can be found in case studies which use one theory to generate clear research questions followed by nuanced and in-depth analysis to explain events. Although there is a clear focus on the latter category in MSA, we find both types of studies in our population of MSA studies; however, the ratio

of studies that actually leverage MSA theoretically as opposed to cite Kingdon superficially is more than troubling. Consequently, we offer the following suggestions for charting a path forward:

1. *Demonstrate proficiency with MSA*: Kingdon published the foundational multiple streams work in 1984. Given the time that has passed since this initial publication, to cite only one text (Kingdon's book) when applying the MSA is akin to citing only Jenkins-Smith and Sabatier (1993) when conducting an ACF study or citing only Ostrom (1990) when conducting an IAD study. ACF and IAD scholars would likely immediately flag such a study as deficient: decades of research would be neglected and the researcher would likely not have a level of proficiency necessary to conduct the study. More current understandings of MSA exist and have existed for some time (Zahariadis, 1999, 2007, 2014). In short, research labelling itself as MSA should proceed from a contemporary understanding of the approach.
2. *Speak to MSA*: If an approach is to be an approach at all, users must share some common understanding of what it means to apply it. For MSA, that commonality can be found in the shared language of its major components. While what qualifies as an MSA major component is likely contestable, we find the recent MSA summary and assessment chapter by Zahariadis (2014) as a reasonable and compelling baseline from which scholars can proceed. Also used in the Jones et al. (2016) meta-review of MSA, this baseline of concepts includes: politics stream, policy stream, problem stream, entrepreneur, and the policy window. Should scholars wish to delve deeper, each major concept also has subcomponents within, all of which are linked by vital processes also worthy of detailed attention. MSA researchers should make efforts to clearly specify these concepts and processes within their studies and how their findings and operationalizations might modify, affirm, improve, or otherwise alter existing MSA understandings. Such communications within the approach will allow increased understanding of the policy process, modification of the approach where needed, while also illuminating where and when MSA is especially useful—and where and when it may be deficient.
3. *Speak to broader policy research*: MSA is situated in a much broader policy literature that aspires to explain public policy. We have attempted to demonstrate this by illuminating MSA's seemingly universal elements and drawing linkages between MSA and evolutionary theories in public policy. We do not believe that these two connections between MSA and the broader literature constitute the totality of MSA's contribution to public policy. On the contrary, Kingdon has been cited over 12,000 times and it is likely that MSA's contributions run deep and far. Yet, few studies mention such connections and fewer offer in-depth exploration. Where appropriate, these connections need to be made and they need to be made explicitly.

Conclusion

For a brief period, it seemed that the MSA's biggest problem was that it was well known but little applied. Yet, the number of applications suggests that MSA is a thriving field of study. This degree of success presents new problems in relation to conceptual development, as MSA becomes applied to issues, areas, and time periods not anticipated by Kingdon in his initial study. Although there are many "universal" elements of MSA, there is clearly a new branch of subnational and supranational studies which provides new conceptual challenges. Kingdon's work remains influential, but as a starting point for a more detailed case study process, translating universal concepts into specific processes, and outcomes.

Consequently, we need new ways to make sure that the results are coherent and comparable with each other, rather than representing isolated cases. One way to further this agenda is to revisit the MSA as one of many policy theories, examining how it relates to other theories and concepts in the literature. We have attempted to do that here by describing MSA as critically linked to other theories such as punctuated equilibrium and new institutionalism. Another is to provide a systematic analysis of the MSA literature, to identify common themes and comparable findings. We provide a step in that direction by qualitatively analyzing 41 of the best-case MSA applications and attempting to distill common themes.

There is no immediate prospect of turning MSA into a detailed theory or model with hypotheses that are tested in multiple cases. This aspect of the MSA remains a little-trodden path. Rather, most of the applications use documentary and/or interview analysis to turn a broad MSA concept into detailed case study results. Many offer the prospect of accumulated knowledge, presented in a comparable way (although the language to describe common case study elements may be broad and partly metaphorical). Others offer new areas of study and concerns about, for example, new sources of influence in the policy stream (from international, supranational, and federal networks), and new roles for entrepreneurs in subnational arenas. There is also the potential for the further study of key questions which relate, for example, to the difference between a "window of opportunity" for a new but broad policy agenda regarding an ambiguous problem, or a specific policy solution to a well-defined problem. The empirical impact of MSA has been considerable, but the untapped *potential* for theoretical and empirical advance is far greater. We may only realize this potential if we can combine the insights from multiple studies in a systematic way.

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Notes

1. Complexity theory is developed in different ways by MSA (Kingdon, 1995, p. 227), PET (Baumgartner et al., 2014), and some proponents of new institutionalism. This link is reflected in the language of complexity theory, which contains familiar elements such as path dependence and punctuated equilibrium (Cairney, 2012b, p. 348; 2013a, p. 286; Cairney & Geyer, 2015; Mitchell, 2009; Mitleton-Kelly, 2003, p. 26).
2. The list does not match Zahariadis's exactly, because we focus only on journal articles and added a small number of texts described as central to the MSA literature in at least one of the sample articles (Exworthy & Powell, 2004; Howlett, 1998; Jordan et al., 2003; J. M. Lieberman, 2002; R. C. Lieberman, 2002; Saint-Germain & Calamia, 1996).
3. It is more difficult to divide by policy domain, since many issues are cross-cutting, but the most studied is health/public health/well-being (12), followed by environmental (7), governance/reform (6), terrorism/foreign, and defence (4). Jones et al. (2016) suggest that, overall, "health, environment, governance, education, and welfare" "constitute 75 percent of MSA applications."
4. There are more than 14 cases discussed, but we list some as belonging primarily to other categories (Exworthy & Powell, 2004; Sharma, 2008).
5. Pierce et al. (2014) and Weible et al. (2009) use both Web of Science and Google Scholar to identify applications, while Jones et al. (2016) use only Web of Science. Consequently, the likelihood that Jones et al. (2016) missed applications is higher than in the other two studies. We view this comparison as appropriate, however, because—if in fact the 311 number in the Jones et al. study is off—it is underreporting the number of MSA application during the time period examined.

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