Chapter 19: Epistemic Communities

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12 August 2011

6481 words without title, bio, acknowledgements, references etc. but with footnotes

Bio

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Introduction

Peter M. Haas formulated the epistemic communities framework as a means of exploring the influence of knowledge-based experts in international policy making. Specifically, the approach was designed to address decision-making instances characterized by technical complexity and uncertainty. Control over the production of knowledge enables epistemic communities to articulate cause and effect relationships and so frame issues for collective debate and export their policy projects globally. Despite the framework being two decades old, there are still relatively few studies which explicitly test or develop the concept theoretically, thus making it difficult to assess what we have collectively and cumulatively learned about this topic. This chapter attempts to systematize key developments in the literature. The first section outlines the concept locating it in the politics of ideas literature. The second explores the state of the art in the empirical studies deploying the epistemic communities framework. The third section considers the theoretical challenges that researchers face when attempting to study epistemic communities. Discussion here proposes five possible causal pathways through which we can explain how epistemic communities help decision-makers learn. The chapter closes with a brief sketch of potential future

research frontiers for scholars interested in the power of knowledge and epistemic communities in public policy.

Epistemic communities and the politics of ideas

Epistemic communities are groups of professionals, often from a variety of different disciplines, which produce policy-relevant knowledge about complex technical issues (Haas, 1992a: 16). Such communities embody a belief system around an issue which contains four knowledge elements:

> [1] a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; [2] shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; [3] shared notions of validity – that is, intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise; and [4] a common policy enterprise – that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence (Haas, 1992a: 3).

The concept was the subject of an *International Organization* (*IO*) special edition in 1992 edited by Haas. In this, the full framework was articulated (Haas, 1992a) and empirically explored in environmental, security, trade and international political economy cases studies. This volume still represents the keystone of the epistemic communities literature. Emphasizing experts' influence over decision-maker learning as a potentially central mechanism effecting policy development and change, the epistemic communities framework aims to make sense of policymaking in conditions of uncertainty and technical complexity. In these settings, decision-makers' preferences will be less clear to them transforming policymaking into an exercise in learning rather than bargaining.

As the main vehicles for authoritative consensual knowledge, epistemic communities have the ability to help formulate policy in three main ways: elucidating cause-and-effect relationships and providing advice on the likely results of various courses of action; shedding light on the complex interlinkages between issues, and helping define the self-interest of states (Haas, 1992a). The 'valued added' of the approach is

that it highlights the importance of actors that are able to define complex problems, particularly in the early policy design stage of the policy cycle where the uncertainty of novel policy problems is at its peak. The framework is intended to complement existing theories of policy making that focus upon interests and the calculation of costs and benefits (rational choice), identities and socialization (constructivism), policy legacies (historical institutionalism) and the use of words and discourse (poststructuralism) (Haas, 1992a: 6). The core analytical point here is that in the absence of epistemic communities to frame complex issues and proffer new ideas, policy making would follow more conventional, unreflective paths (Haas, 2011).

The advent of the epistemic communities framework should be seen as part of the wider 'renaissance of knowledge' (Radaelli, 1995). In political science in the 1990s scholars were reminded that, alongwith the traditional interests and institutions, there was a third 'i'. Ideas also matter in explaining political decision-making. Although material power, identities and policy legacies have not disappeared from analysis, this ideational turn emphasizes decision-makers as 'sentient' agents (Schmidt, 2010). As such, they are sensitive to new ideas or new representations of existing ideas. The politics of ideas agenda has been followed enthusiastically and resulted in empirical analysis that sheds light on how public policy emerges from new ways of thinking, beliefs, rhetoric and discourse. The contribution of the epistemic communities framework is to remind us that 'ideas would be sterile without carriers' (Haas, 1992a: 27). This is an anthropomorphic conceptualisation of knowledge (Radaelli, 1997: 169) where those experts who create the knowledge on which decision-maker depend are central to political analysis. Thus, to identify an epistemic community is to identify a set of actors with the professional and social stature to make authoritative claims on politically pertinent and socially relevant issues of the day. Their success is dependent, not simply on their epistemic resources but also on their political acumen. Epistemic communities must persuade decision-makers, and successfully navigate the machinery of government by insinuating themselves into bureaucratic positions, if their consensual knowledge is to inform policy choices.

The empirical analysis of epistemic communities

The first step in mapping the field of epistemic communities' scholarship involves exploring the empirical analysis deploying the term. Bibliographic analysis provides the broad canvas on which we can sketch out some of the significant details. Using a citation search, we identified some 638 articles, book chapters and books citing Haas's 1992 introductory article to the *IO* special edition[1]. Results confirm the idea of epistemic communities is firmly embedded in the social sciences lexicon; in the past two decades, the concept has travelled across a wide range of disciplines – 54 in fact (see figure 1). Such wide appeal fits with the framework's aim to explain the role of experts in the technically complex policy problems which dominate the policy process in contemporary society. As we would expect Government and Law, Public Administration and International Relations (IR) lead the way in citations, though interestingly IR lags a little way behind the first two political science sub-fields.

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Despite epistemic communities' obvious resonance across social scientific disciplines, a review of the literature reveals superficial engagement. Specifically, the actual identification of epistemic communities using the four-fold belief system that defines them remains rare. Rather, the term is more frequently used metaphorically to describe any group of experts giving policy advice. A succinct explanation for this state of affairs is offered by Wright: [A]ctually identifying these communities … can be a difficult process' (1997: 11). Practical obstacles, such as identifying, locating and gaining access to those believed to be members of an epistemic community, may frustrate attempts to engage with the approach as an analytical tool.

Identification of an epistemic community's belief system presents a further empirical challenge. In most cases, authors delineate beliefs using the qualitative 'soaking and poking' (Fenno, 1986) strategies advocated by Haas. This is especially appropriate when attempting to uncover what can be sensitive information – particularly experts' normative and policy beliefs about an issue. However, in addition to analysing scientific documents and conference proceedings, and conducting interviews, some scholars have used quantitative surveys (Radaelli and Connor, 2009; Wright, 1997) to

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[1] The citation search involved two steps. The first was to perform a citation search using the ISI social sciences database – this yielded 583 articles. The second was a hand search for works not cited in the ISI – a further 55 articles, books and book chapters citing Haas 1992a were uncovered at this stage.

gather this kind of information. Criticisms have however been voiced about the neglect of how epistemic communities' beliefs about an issue are mediated by experts' own deeper socio-political beliefs and psychological motivations (Finlayson, 2004; Zelikow, 1994). This question of social conditioning is explored by Mitchell et al (2007) in relation to nuclear scientists in the United States (US) and European Union (EU) member states. Using survey data, they conclude that values (expressed on the traditional left-right spectrum) and national context matter for epistemic communities' policy preferences.

The challenges of using epistemic communities as an analytical framework are not only practical. Getting to grips with the structure and power dynamics that may exist within an epistemic community is important if we are to understand belief system formation and message framing. For example, in their study of an epistemic community of legal scholars, van Waarden and Drahos (2002) uncover a hierarchical structure where some actors are more equal than others; 'it matters not only what some member says, but who says it' (2002: 930). In a related vein, Drake and Nicolaïdis's (1992) and Dunlop's (2009) case studies illustrate the impact that a division of labour between disciplines within these groups can have on belief system formation and communication. Yet, in the politics literature, these examples are the exception rather than the rule. In most cases, where scholars do map out the beliefs which epistemic communities embody, the community itself is rarely the centre of analytical attention – usually losing out to interest groups and institutions. Disciplinary preferences provide a plausible explanation for this. Political scientists' attention is naturally drawn toward political institutions rather than the world of professionals and experts. Here, the increasing attention being paid by sociologists, well-schooled in the power of professions (Abbott, 1988), will be valuable to the epistemic communities approach[2]. For example, Roth's (2008a, 2008b) analysis of epistemic communities of embryologists and zebrafish, respectively, forms the basis for a discussion on the internal structure and politics of these communities. Lorenz-Meyer's (2010) recent work on the membership configurations within communities, and experience of actually being a member, is similarly promising. By exploring the

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[2] There have been 45 research articles citing Haas's 1992 *IO* introduction in journals classified under Sociology by the Web of Science. Just over half of these have been published since 2006 (Web of Science citation search 22 July 2011). Perhaps surprisingly, only 17 of these are published in journals which identify as including Science and Technology Studies (STS).

internal workings of epistemic communities, analysts can uncover how experts expand their political power and ability to influence.

The epistemic communities framework was originally developed to explain the role of transnational experts in fostering international policy coordination – something reflected in the pronounced number of studies focussing on the EU (for example, Kaelberer, 2003; van Waarden and Drahos, 2002; Zito, 2001)[3]. The bibliographic review also reveals however that these communities are not restricted to inter-, trans- or supranational levels. Epistemic communities can be located at any level of government. Indeed, they are commonly national entities, and policy transfer concepts (see chapter 18 of this volume) have usefully been deployed to explore what happens to ideas as they move from an epistemic community in one jurisdiction to another (Albert and Laberge, 2007; Prince, 2010; Melo, 2004). Studies have also highlighted the more antagonistic relationship that can develop between epistemic communities in different places. In her studies of hormone growth promoters and the biotech milk aid rbST Dunlop illustrates how epistemic communities in the EU and US, offering contrasting interpretations of the same scientific evidence, were used to justify international policy divergence (2007, 2009, 2010). Harrison's cross-national study of dioxins in pulp mill effluents and paper products reports a similar role for experts in cross-national policy divergence (2002). This underlines that, the concept's analytical leverage is founded on the potentially powerful role experts and knowledge can play in overcoming collective action dilemmas in uncertain contexts *regardless* of jurisdiction and government level. Empirical studies have also successfully applied epistemic communities to more local settings – for example exploring interagency cooperation in California (Thomas, 1997); forest policy change in British Columbia (Kamieniecki, 2000); medical ethics in the Czech Republic (Simek et al, 2010) and transport policy in Belgium (Albrechts, 2001).

The empirical literature also highlights research design issues associated with locating epistemic communities in dynamic policy environments. Two main challenges are evident: how to explore epistemic communities' interactions with other actors in

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[3] It is instructive to note that the leading journal publishing work citing epistemic communities is the *Journal of European Public Policy* (which recorded 40 of the 583 articles listed in the ISI).

policy arenas and designing research that is able to capture the temporal dimension of epistemic communities' influence.

To understand how epistemic communities interact with other policy actors, we first need some background on what distinguishes epistemic communities from others in the policy process. Their blend of beliefs and highly specialised expertise distinguish epistemic communities from interest groups and policy networks (Haas, 1992a: 22). This enables them to make legitimate claims to being *the* main producers of knowledge in an issue area (Dunlop, 2009). This specification of difference does not imply that Haas attempts to advance epistemic communities as morally superior to other actors in the policy process (see the debate between Toke [1999] and Dunlop [2000]). Rather, the aim is to record the view that expert groups' main interactions are expected to be with decision-makers and that they are *not* a brand of specialised interest groups with non-material aims (Haas, 1992a: 19). For Haas, the crucial claim to distinctiveness rests on elements [2] and [3] of their belief system which result in consensual knowledge. Haas consistently implies the non-negotiable nature of these two elements – without them, the epistemic community ceases to function as an authoritative voice of advice. Accordingly, in the event of a serious challenge to the causal 'world view' of the community [2] which could not be settled internally [3], the community would withhold policy advice: 'Unlike an interest group, if confronted with anomalous data, they would retract their advice or suspend judgement' (Haas, 1990: 55).

But what of the real world of politics – where constellations of political actors interact, argue and bargain? Being 'apolitical' (yet 'politically empowered') seems unfeasible. The emphasis on consensual knowledge may overstate the influence these expert enclaves *alone* can have. Interest groups and rival scientific groups interact with epistemic communities learning from and arguing with them. The need to explore epistemic communities' propensity to build alliances was a theme taken up by James Sebenius in the 1992 *IO* special edition. Using insights from negotiation analysis, Sebenius argues that an epistemic community's influence may emanate from *bargaining* with other actors in an attempt to convert their 'natural coalition' of believers into a 'winning coalition', pushing forward a shared policy enterprise (characteristic [4] of an epistemic community) (Sebenius, 1992: 325). Therefore, epistemic communities have to be politically proactive players to convey their

message, interacting with a multiplicity of other actors where it is to be expected that influence is variable and contingent as wider strategic games are played out. In such a scenario, the full potential of consensual knowledge may only be realised through the involvement of other, more politically astute, groups.

In the literature, this interaction is often captured by subsuming epistemic communities within interest-based approaches. Most commonly, empirical studies which explore alliances between epistemic communities and interest groups use the advocacy coalition framework (for example, Dudley and Richardson, 1996; Elliott and Schlaepfer, 2001; Meijerink, 2005). However, with the interest-based approaches doing the analytical work, epistemic communities' conceptual development is stunted. Alliances with interest groups raise key issues that are still to be addressed. What happens to the epistemic community itself as alliances stabilize? What aspect(s) of an epistemic community's belief system are most vulnerable to change, if any? Unlike Sabatier's advocacy coalition framework approach, the epistemic communities framework does not explicitly explore the weight of the beliefs relative to one another. Exploring the susceptibility of a belief system to change would tell analysts a good deal about a community's propensity toward coalition building in a given policy area. Exploring the extent to which one element could dominate another, and how this is influenced by the membership of a community, could also help build bridges with the emerging research on interest groups. For example, by delineating the relative importance of normative and policy oriented beliefs, synergies may be possible between epistemic communities and advocacy networks (Keck and Sikkink, 1998) and epistemic communities and Communities of Practice (Wenger, 1999).

While we have empirical studies of cooperation, there is little evidence that epistemic communities are willing to engage in conflict with interest groups. Rather, conflict appears reserved for other expert groups. For example, the epistemic battles between rival groups of experts, anticipated by Haas (1990: 57; 1992b: 44), has been explored empirically by Youde (2007). In his study of health policy in South Africa, Youde identifies the emergence of both an epistemic community and a 'counter-epistemic community' offering fundamentally different understandings of AIDS and radically different policy prescriptions.

This intervention is extremely valuable. In the two decades since the epistemic communities concept was first introduced, communication technology has changed beyond all recognition with the advent of the internet. Simultaneously, the technical policy dilemmas that decision-makers encounter have increased in quantity and complexity – most notably climate change. The democratisation of information (if not knowledge) and increased urgency of complex policy making has resulted in a huge expansion in the number and types of groups that classify themselves as experts. These trends are reflected in the increased willingness of scholars to talk in terms of multiple epistemic communities (Stephens et al, 2011) that engage in 'contests of credibility' (Epstein, 1996: 3). The prescience of the approach is also reflected by the empirical cases studies. The framework has been used to explore policy problems as diverse as agricultural policy (for example, Coleman and Skogstad, 1995); financial policy (Rethel, 2010); economics and banking (for example, Ikenberry, 1992); forestry (Shankland and Hasenclever, 2011); defence and security (Howorth, 2004); health policy (for example, Ogden et al, 2003), and transport (for example, Schot and Schipper, 2011). Reflecting the approach's empirical roots, environmental case studies are by far the most common – something which is set to continue (for example, Haas, 1990, 1992b; Peterson, 1992). Between 2010 and 2011, nine of the 118 articles citing Haas's 1992 introduction were directly related to climate change and sustainable development (for example, Lovell and MacKenzie, 2011).

While epistemic communities are discrete actors, they are located in dynamic policy environments. This dynamism requires not only that research is designed in ways which illuminate how epistemic communities relate to other policy actors; we must also attend to the temporal dimension of policymaking. A focus on the 'here and now' of policymaking means that analysis may miss epistemic communities' influence. There are three reasons for taking the long view; the first concerns the internal operation of an epistemic community. While we might expect experts' influence to be biased toward the early stages of the policy process, the back story of how a group of experts came together, and the process of knowledge creation, still matters. Scientific consensus takes time to construct; knowledge is often incomplete and judgments of cause and effect partial. If we focus only on what has occurred when the consensus has been reached and the community has entered the political arena, we may miss

earlier episodes of political behaviour where the expert enclave has, for example, refined its position in order to gain access to decision-makers (Dunlop, 2007).

In the same vein, empirical studies are required to illuminate what happens to epistemic communities over time, as they interact with decision-makers and other actors in the policy process. This issue of time is again something which Haas acknowledges in pointing out that the knowledge consensus represents a '*temporally bounded notion of truth*' (1992a: 23, added emphasis). Over time, this particular 'truth' will evolve, be challenged and altered, or debunked and replaced, as new discoveries dictate. We need to empirically explore what happens to these communities *during* this evolutionary process. Of specific interest is the impact that political exposure has on an epistemic community's belief system. Haas and Adler state that: '[A]s epistemic communities consolidate and expand their political and bureaucratic influence internationally, additional ideas may be incorporated into the core community beliefs' (1992: 374). Successful examination of the stability and strength of the different elements of an epistemic community's belief system requires that the four elements' characteristics are problematised clearly in empirical studies and their importance relative to each other elucidated (Dunlop, 2000).

A second reason for analysing epistemic communities over time concerns when epistemic communities are located in the policy cycle. It is well established that experts are active in the early agenda-setting and issue framing stages of policy making and less visible as decisions are being set and policy implemented. However, if we only front-load our attention to these early stages, analysis may miss a re-appearance or reincarnation of an epistemic community in the policy evaluation and feedback stages.

Finally, the causal mechanism associated with the approach also requires that we take the long view. Learning processes have their own temporal dimension – with 'policy oriented learning' and 'enlightenment' happening over protracted periods of time (Sabatier, 1988; Weiss, 1979). And so, we must look at the 'moving picture' rather than the 'snapshot' (Pierson, 1996). Long after an epistemic community has left the political arena, its ideas may be influencing policymaking.

Theoretical challenges

While the epistemic communities framework is empirically well-travelled, the analytical horizons of the approach have not been broadened to the same extent. Despite being *the* conceptual name to drop in studies of technical issues in political science and beyond, very little work has been done to interrogate and develop the concept theoretically. The tendency in the discipline to commit substantial time and resources to refining and reforming such conceptual frameworks – for example the last three decades refinement of policy networks (for example Thatcher, 1998; see chapter 9 of this volume) and the advocacy coalition framework (most recently Weible et al, 2011; see chapter 10 of this volume) – has not been repeated in the case of epistemic communities. Given the empirical, practical and disciplinary barriers outlined already, such underdevelopment is perhaps unsurprising. This is not to say that the analytical challenges associated with the approach are unknown however. On the contrary, many of the articles citing Haas's work offer conceptual criticisms. But these are made in passing and have not been related back to the framework itself. This section outlines some of the analytical gauntlets that have been thrown down and proposes ways that these might be picked up by future scholars focussed on explanatory analysis of epistemic communities.

To understand how epistemic communities influence decision-makers' learning we must first clarify our dependent variable. Asking what is actually being explained in epistemic community analysis is perhaps not as self-evident a question as it may seem. In his case studies, Haas uncovers epistemic communities as the catalysts for international policy coordination. This policy outcome should not however be the standard against which an epistemic community's influence is judged. These cases show the maximum influence experts can have; they are extreme examples. If we look only for international policy coordination, the results are liable to disappoint. Epistemic communities are rarely 'live' actors at the decision-making or implementation stages of the policy cycle. So, we must lower our expectations and give epistemic communities their proper analytical place. What we are interested in is how epistemic communities help decision-makers' learn. Policy outputs should not be the primary focus as epistemic communities' influence over those will usually be indirect.

So, what do decision-makers learn from epistemic communities? In his exposition of the epistemic communities' framework, Haas provides a clear definition of learning. Learning is a process of informing decision-makers' beliefs about the four key components of complex technical issues embodied by epistemic communities with particular attention drawn to epistemic communities' influence on the 'substantive nature of … policy arrangements' and their more overtly political role as the 'nonsystemic origins of state interests' (1992a: 4). Experts' potential to stimulate learning is assured by the control they enjoy over the production of knowledge relating to an issue (Haas, 1992a: 2) and the influence they exert a function of decision-makers' uncertainty.

Despite this clarity and specificity, we still know relatively little about the possible forms of learning that may arise between epistemic communities and decision-makers. The framework emphasizes a form of learning that depicts control over knowledge as something which epistemic communities have and decision-makers, whose bounded rationality initiates their call for advice, do not have (1992a: 14-16). This definition of uncertainty is problematic however. Epistemic communities' entry into the policy arena is a function of decision-makers' technical uncertainty, however by conflating this uncertainty with comprehensively bounded rationality we are left with a single learning category where decision-makers experience extreme epistemic deficiencies which need to be filled. And so, despite disaggregating belief systems into individual components in the definition of what an epistemic community actually is, the epistemic resources experts' pass on to decision-makers are portrayed as a unified good.

This 'deficit model' of learning (Dunlop, 2009), where epistemic communities are required to fill gaps in decision-makers' knowledge, reflects the empirical case which informed the original development of the epistemic communities approach. Haas's major study *Saving the Mediterranean* (1990) illustrates the extreme level of influence that epistemic communities can have. In this case, the epistemic community had the power to make decision-makers cooperate and develop policies in ways they would not otherwise have. Such ideal typical cases yield important examples of what is possible, however they highlight extreme phenomena. If it is to explain the role of epistemic communities in 'who learns what, when, to whose benefit and why' (Adler and Haas, 1992: 370), the analytical framework must be able to account for the

variety of these actors' learning interactions. While epistemic communities' central role in information production gives them the authoritative status to occupy this role, we cannot assume that they will be able to exert control over *every* aspect of what is known about an issue or that the control they do enjoy will be uniform across time and space. To understand the different roles epistemic communities occupy in the policy process we must have a clear, coherent and systematic way of describing variation in this explanandum.

One promising way of characterising the learning that epistemic communities can effect is to focus upon the ways in which decision-makers' preferences *mediate* the learning processes in which they engage. This is something that Haas himself acknowledges describing a scenario where decision-makers rely on epistemic communities for only *certain aspects* of policy knowledge (1992a: 15). Where decision-makers' preferences are unclear or controversial, uncertainty is generated and gaps appear into which epistemic communities can insinuate themselves. Learning may also be differentiated across time and space as well as knowledge components; epistemic communities can be 'called in' to provide one type of input and find that the scope and intensity of their influence may increase, decrease or change in emphasis (1992a: 16).

In recent research, a typology has been developed to capture the variety of ways in which decision-makers actually learn from epistemic communities (Dunlop, 2009). Using a flexible definition of uncertainty for example, Dunlop (2009) suggests that variety is best captured by differentiating between the control enjoyed by decision-makers and epistemic communities over the production of substantive knowledge – or *means* – that informs policy on the one hand and the policy objectives – or *ends* – to which that knowledge is directed on the other. The four components identified by Haas can be reclassified quite simply into the foci of means and ends with shared normative beliefs [component 1] cause and effect postulates [component 2] and intersubjective understandings of validity [component 3] making up the substantive means produced around an issue and the most overtly political component of epistemic communities the common policy enterprise [component 4] equating to the end objectives. The implications of this distinction for the types of epistemic community–decision-maker learning exchanges that may prevail are elaborated using

a typology of adult learning from the education literature which delineates the *four* possible learning situations (see Dunlop, 2009 for an exposition of the typology).

Dunlop's empirical exploration of the typology provides grounds for optimism suggesting that each of the types are readily distinguishable from one another and provide a parsimonious account of learning exchanges and basis for ordering empirical findings across cases and comparison within them. Of course, further empirical assurances are required that the typology does not contain self-contradictory ideas. Suffice it to say that research needs to unpack the nature of uncertainty and what it is in epistemic terms that decision-makers are open to learning from epistemic communities.

With regard to the independent variable, we can break down the explanatory challenges posed by epistemic communities. Following Coleman (1986), explanation of epistemic communities' influence in the policy process consists of unpacking three elements in turn: a) the micro foundations of the macro-level independent variable (i.e. epistemic communities and the learning they effect); b) the micro-micro causal logics that characterize the learning interactions between epistemic communities and decision-makers (and other policy actors), and c) the mechanisms that turn learning at the micro level into macro outputs of the dependent variable (i.e. learning in government and, ultimately, policy outputs). Against Coleman's 'bathtub' ideal of rigorous research, the epistemic communities' literature reveals the various conceptual challenges to be met.

a) Micro foundations of epistemic communities and learning To uncover the micro-foundations of epistemic communities' influence in the policy process, we must focus on the conditions of their emergence. Empirical studies reveal at least two distinct epistemic community types – each distinguished by the extent to which decision-makers exert control over their existence (Dunlop, 2010). Epistemic communities were originally conceived as 'evolutionary' entities; self-regulating enclaves of experts that existed 'out there' in the academic and research world that entered the political arena by responding to decision-makers' call for advice (Haas, 1989, 1992a). In such 'ideal typical' scenarios, decision-makers' uncertainty is such that epistemic communities are able to offer *both* substantive policy advice (means) and policy proposals (ends). However, another type of expert enclave is apparent in the literature.

Some epistemic communities are what can be described as 'governmental' – where members have been deliberately selected by decision-makers to justify a pre-determined policy decision (Dunlop, 2010) or depoliticise an emotive issue (Peterson, 2001). For example, in Ikenberry's study of Anglo-American postwar economic settlement (1992), an epistemic community was *assembled* by decision-makers to provide technical and normative guidance to facilitate a move away from policies based on unregulated free trade. A similar instance of decision-makers delimiting the policy ends is provided by Verdun in her study of the Delors' Committee that was appointed to provide the substantive epistemic means to supranational elites aiming to deliver the policy end of Economic and Monetary Union (EMU) in the EU (1999). It is only by identifying epistemic communities' micro-foundations, that the scope of decision-makers' epistemic needs, and the likely range of epistemic communities' influence, can be discerned.

b) Explaining learning interactions between epistemic communities and policy elites On the micro-micro interactions between epistemic communities and decision-makers, the causal mechanism associated with the framework is obviously learning. However, learning as an explanation takes many forms. Indeed, a closer look at the epistemic communities literature suggests that learning is a 'master mechanism' (see Hedström and Swedberg, 1998 for a deeper discussion of causal mechanisms) which can be unpacked into a variety of specific causal logics. The five causal pathways with most analytical potential are suggested and discussed in turn.

> *i) Learning as instrumental* Haas's epistemic communities framework, as it stands, implies two causal rationales. The first of these treats decision-maker learning as underpinned by the Lasswellian desire to make 'better public policy'. Here, interactions between epistemic communities and decision-makers are guided by a functional logic where beliefs are updated in a Bayesian manner (Radaelli, 2009). Epistemic communities' supply the policy-relevant information required by decision-makers to update their beliefs. Public policy, in this view, is a matter of trial-and-error and experts' role is more overtly technical than political.

> *ii) Learning as persuasion and socialization* Haas also emphasizes that the framework is underpinned by 'limited constructivism' (1992a: 23) stressing

the importance of persuasion and reflection in the redefinition of decision-makers' interests and identities (Checkel, 2001; Jacobsson, 2000: 160-161). In Haas's Mediterranean study (1990) for example, the epistemic community which grew from the United Nations Environment Plan (UNEP) persuaded decision-makers across nations to internalise a new set of environmental standards and common understanding of the problem. The international diffusion of new environmental norms resulted in effective policy coordination.

iii) Learning as calculation Moving beyond the causal logics originally envisaged for epistemic communities, more overtly political learning styles may exist where interaction is underpinned by a 'logic of consequence' and behaviour a function of calculation. In such interest-driven accounts, epistemic communities and decision-makers act in ways that maximise their utility where their engagement in a learning relationship is a product of the sanctions and rewards they perceive such behaviour will bring. The benefit of this logic is that it enables a move away from simply treating learning as something which is value driven, or based on technical rationale. Rather, decision-makers can control a policy domain or gain political advantage by using and, perhaps sourcing, specialist knowledge in a strategic manner (Chwieroth, 2007; Dunlop and James, 2007; Kohler-Koch, 2000; Niemann, 1998). For example, principal-agent modelling has been used to explore the role of epistemic communities is delivering pre-determined policy choices in an efficient and credible manner (Dunlop, 2010). We should be clear, it is not simply decision-makers that can be treated as rational actors. Epistemic communities' belief systems suggest that while they do not have direct pecuniary incentives, they are still interested parties. Because of their socio-political beliefs these are experts who *want* rather than need to be in the policy arena. They are self-selecting policy actors driven by normative and policy beliefs. Moreover, as creators of knowledge, they are essentially 'residual claimants' (Alchian and Demsetz, 1972); long-term shareholders in a product who may compete with other 'claim makers' to control an epistemic field.

iv) Learning as legitimacy The sociologies of science, knowledge and professions have obvious, but rarely used, insights for epistemic communities.

Specifically, the logic of practice thesis (Bourdieu, 1990) can be used to illuminate the interaction between experts and decision-makers as a game where action is informed by the cultural dispositions of the two sets of actors involved. In relation to advisory games, epistemic communities as symbols of authority and legitimacy has been criticised in the Science and Technology Studies (STS) literature (Jasanoff, 1996; Lidskog and Sundqvist, 2002, Walker, 2001) and this field offers important analytical resources for the framework. Epistemic communities' practices as authority claiming actors can be explored using Gieryn's (1983) notions of boundary work. In contrast to the logic of appropriateness, epistemic communities in this view draw a firm line, a boundary, between themselves and the decision-makers they advise. By emphasizing the differences in their professional identities, epistemic communities monopolize epistemic resources and aim to impose their view of the world by dint of their epistemic authority. Decision-maker learning in this scenario is not about uncovering 'what works', but rather is symbolic and legitimacy seeking.

v) Learning as unreflective The idea of learning as unreflective is more than a little contradictory. But, we can imagine scenarios where learning from an epistemic community is an automatic response from decision-makers. Following Hopf's thesis on the 'logic of habit' in international relations (2010), habitual behaviour flourishes in environments where uncertainty is absent. Where an epistemic community has become institutionalised, and has successfully attenuated uncertainty and advisors' trustworthiness is assured (Hopf, 2010: 16), decision-makers may be content to unquestioningly adopt its ideas thereafter. The proposition that epistemic communities' interpretations could be adopted wholesale through routinized behaviour of decision-makers is perhaps not as controversial as it may at first appear. Epistemic communities that have been institutionalised in bureaucracies may command considerable resources – institutional as well as epistemic (Finnemore, 1993). This is especially plausible in technically complex policy domains where the political stakes are relatively low or remain hidden.

Of course, if considered in isolation each of these conceptual lenses may obscure as much as it reveals. Certainly, mono-causal explanation will not take analysts very far

in the complex world of policy learning. Rather, these logics are better used in combination. For example, in her study on hormone growth promoters, Dunlop (2010) found that explanation emphasizing a calculative logic were important at the start of the relationship between European Commission officials and their epistemic community but gave way to learning underpinned by socialization further down the line.

c) Relating the micro world of learning to the macro world of policy outputs Finally, research must relate the micro world of epistemic community–decision-makers interactions to the macro level world of government learning and policy outputs. The challenges posed by such aggregation are considerable. Analysts must capture how decision-maker learning becomes transformed into learning at a systemic level. They must also pin-point the source of those lessons as being the epistemic community. Methodological choices may hold the key here. The painstaking qualitative process-tracing originally advocated by Haas (1992a) remains the most suitable method to uncover whether socially accepted ideas can actually be traced back to a of group experts. Counterfactual analysis, also suggested by Haas, is a valuable yet underused tool which can help construct a rigorous account of learning that would not have occurred in the absence of an expert enclave creating new policy relevant ideas.

Conclusions and future research agenda

The epistemic communities approach speaks directly to the complex challenges faced by decision-makers in uncertain policy environments. Accordingly, the approach has proved valuable in explaining the role of experts in a variety of political settings and has remarkable disciplinary reach beyond its roots in IR. Yet arguably, we are still some way off the 'reflective research program' envisaged two decades ago (Adler and Haas, 1992).

Empirical research on epistemic communities has ensured that the term is now part of the social science lexicon. To deepen our understanding, research is required that explores how epistemic communities emerge in the first place and what happens to them as they interact with decision-makers and other policy actors over time. Moving from exploratory to explanatory mode, future research interrogating the causal

mechanism of learning would be welcome. In particular, following major analytical themes which have emerged in political science in the past few years, the role of professional practice and habit in how decision-makers learn from epistemic communities would represent important additions to the research agenda. Finally, with regard to methodology, again epistemic communities should take inspiration from where analytical energies are being deployed in the social sciences. Specifically, it would be useful for scholars to invest research time two areas: the role of temporal variables in epistemic communities' influence and the transformation of learning at the micro level to learning at the systemic level.

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