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Is it time to give up on evidence-based policy? Four answers

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Based on a systematic analysis of nearly 400 publications, this review article identifies four contrasting perspectives on evidence-based policy (EBP). One school of thought advocates reinforcing demands that governments pay more attention to research. A second perspective argues for the reform of the relationships between researchers and policy-makers. A third emphasises the need to reinvent formal procedures that govern the generation and use of evidence. The fourth rejects the possibility that research can simultaneously meet disciplinary standards and meaningfully address the needs of policy-makers. The paper concludes that to respond to the challenges facing EBP, researchers must develop a more realistic grasp of the task environment in which ministers and senior officials operate, reject naïve but prevalent assumptions about the level of analytical rationality in government, and recognise that direct and sustained engagement with policy-makers may not be compatible with career advancement in academia.

key words evidence-based policy • policy • rationalism • complexity

Introduction

Is the evidence-based policy (EBP) movement a sign that major improvements in policy-making are there for the taking, were governments and researchers to make the necessary efforts? Are governments currently neglecting evidence which would provide valuable support for significantly improved policies? No one doubts that where research usefully addresses public problems, it should be exploited to the greatest extent practicable. Not everyone agrees as to (a) how much research ‘usefully addresses’ public problems, (b) how much ‘the greatest extent practicable’ exceeds the current extent to which research is exploited in the making of policy, and therefore, (c) what efforts should be devoted to achieve a better supply of better employed evidence?

We define *evidence* as the product of research: organised knowledge produced in accord with the standards of the relevant academic disciplines. *Policy* is defined as the position or approach adopted by public authorities – governments, agencies, school boards, the military, the police – toward problems or opportunities which are perceived to affect public welfare.

This paper attempts to respond to these questions through a qualitative systematic review (Booth, 2001; see also Petticrew and Roberts, 2006, 39) of the literature on the policy potential of EBP. We identify four major schools of thought which differ in their response to the question raised above.

It is important to note that just as scientific papers do not provide an account of the *process* of research (Bijker et al, 2009, 28; Hilgartner, 2000, 29; Vaughan and Buss 1998, 46–7) with its false starts, negative results and sheer failures, but rather an account of its *results*, so too do accounts of policy fail to provide any sense of the *process* of arriving at that policy, with its many reversals, ‘irrationalities’, and contingencies (Bogenschneider and Corbett, 2010, 153–71; Cleevely, 2013, 87–88; Colebatch, 2006, 313; Featherman and Vinovskis, 2001; Jasanoff, 2012, 7; Maybin, 2016, 92; Newman, 2017, 219). Political rationales accompanying policy announcements should never be mistaken for accurate accounts of underlying processes or motivations (Dreyfus, 1977, 100). The point is that whatever the educated layperson may choose to assume about the making of public policy, there is no substitute for reading the literature on the subject, also known as ‘the evidence’. Much of that literature argues the partiality or infeasibility of the rationalist model cherished by many proponents of EBP. Likewise, it has been difficult to identify the successes of research in resolving the challenges of public policy.

The potential of EBP is therefore contested and contentious. In the next section of the paper, we describe the methods used to identify the relevant literature, and certain of its characteristics. In the following sections, we describe four major schools of thought on EBP. A short conclusion follows.

Qualitative systematic review

The PAIS bibliographical database was interrogated for peer-reviewed books and scholarly articles with ‘evidence-based policy’ in their titles. This generated 132 references, which were complemented by the author’s bibliography of policy-relevant references. Articles which addressed issues using the expression as an indicator of legitimacy, but which did not address the practice of EBP explicitly, were dropped from the review. This left several dozen potential references, which were read and from which manual searches of notes allowed snowballing for other relevant references. A total of nearly 400 relevant books, book chapters, conference papers and articles, from a variety of disciplinary traditions, were ultimately identified and reviewed by the author.¹ This cannot be regarded as comprehensive review of all the relevant literature; however, it surpassed the point of ‘data saturation’ (Booth, 2001).

This review was carried out following Booth (2001):

Literature searching for qualitative systematic reviews should exhibit the following characteristics:

- a) Identifying major ‘schools of thought’ in a particular area whilst being alert to the identification of variants, minority views and dissenters. It is particularly important to identify negative or disconfirming cases...
- b) Searching within a broad range of disciplines so as to bring different views (for example, clinician, consumer, manager, health economist, statistician, research commissioned etceteras) to bear on the topic in hand.
- c) Using complementary electronic and manual search techniques to ensure that materials are not missed either through the inadequacies of indexing or through selective coverage of databases.

The review reached the point of ‘data saturation’ (Booth, 2001):

Once a particular theme has been identified further occurrences of this theme are only of interest in strictly quantitative terms unless they expand on or modify an already-identified theme. Interestingly quantitative reviewers are currently seeking methods to define a ‘law of diminishing returns’ beyond which further literature searching has little justification in order to manage the inordinate expense of the searching process. For qualitative reviews the answer to this problem already exists in the principles of data saturation used in primary studies.

In short, the review stopped when it became clear that no fundamentally novel arguments were forthcoming in the literature being reviewed. A second paper, under review elsewhere, synthesises the practical lessons which emerge from the literature (French, 2018).

A number of general conclusions resulted. The first was that the issues canvassed as to the practice of policy making, in the literature which explicitly evoked EBP, were very similar to those discussed in the earlier literature from the 1970s onward on policy making, the ‘policy sciences’ and ‘knowledge utilization’. This was not a surprise. EBP is the millennial descendant of the policy sciences movement of the postwar era, and while that movement gave some way to postpositivist policy theory beginning in the 1980s, it never died (Botterill and Hindmoor, 2012, 367). The earlier literature has been employed as part of this review, both because it seamlessly complements the explicitly EBP literature, and because it recognises important earlier figures in the study of research and policy such as Carol Weiss, Charles Lindblom, Nathan Caplan, Martin Rein, Richard Nathan, Richard Nelson and Henry Aaron, to name only a few.

A second conclusion was that there is a serious shortage of evidence on EBP – at least, a serious shortage to the extent that one takes the standards of evidence cherished by the EBP movement to apply universally. For proponents of EBP, ‘there is still a remarkable dearth of reliable empirical evidence about the actual processes and impacts of research and other evidence use in policy’ (Oliver et al, 2014; see also Albæk, 1995, 82; Bogenschneider and Corbett, 2010, 253–311; Contandriopoulos et al, 2010, 447–8, 468; Gagliardi et al, 2016, 10–11; Landry et al, 2003, 193–6; Ward et al, 2009, 274–6). In one of the most important surveys of research use, Nutley, Walter and Davies (Nutley et al, 2007, 271; see also Levin, 2008; Mitton et al, 2007) observe that:

As anyone working in the field of research use knows, a central irony is the only limited extent to which evidence advocates can themselves draw on a robust evidence base to support their convictions that greater evidence use will ultimately be beneficial to public services. Our conclusions...are that we are unlikely any time soon to see such comprehensive evidence neatly linking research, research use, and research impacts, and that we should instead be more modest about what we can attain through studies that look for these.

A third conclusion followed from the second, to wit, that ‘when the evidence jigsaw is suspected to have many pieces missing, it makes sense to try to collect as much

as possible of the pieces that do exist' (Petticrew and Roberts, 2006, 188). In this paper, we have of necessity been open-minded about methodology and variety of sources and have tried to compensate for a mixed quality of research with a broad sweep of the literature.

A fourth conclusion was that there are indeed a variety of methodological approaches in the relevant literature: survey research with or without additional interviews (for example, Weiss and Bucuvalas, 1980; Landry et al, 2001; 2003; Ouimet et al, 2009); practitioner/participant observation (for example, Aaron, 1978; Bogenschneider and Corbett, 2010; Heymann, 2008; Nathan, 2000, Schuck, 2014; Stevens, 2011); systematic reviews (Contandriopolis et al, 2010; Davies et al, 2015; Oliver et al, 2014); ethnography (Rhodes, 2013); theory (Cartwright and Hardie, 2012; Stone, 2002); observation and interviews (Salter, 1988); a myriad of case studies; and – the majority of the references – a great variety of critique, commentary, and passing observation pertinent to the question of the use of evidence in the making of public policy.

(There is another type of evidence, from what is now called behavioural economics, which helps to illuminate the way citizens make judgements in real life, and thus how politicians must shape their policy responses if they wish to carry support. Recent interest in this literature in policy circles has focused on its potential to reveal subtle, non-coercive and low-cost ways of influencing citizen behaviour: 'nudges'. It is primarily instrumental in nature and directed at citizens in their daily activities. It remains to be seen whether it will constitute a major contribution of research to policy-making, but it has attracted considerable attention. It is not our primary focus here. A nudge must be guided by a substantive policy as to preferred outcomes for citizens; we are asking how research supports the search for such policies.)

A fifth conclusion was that there is – insofar as the phenomena associated with the use of evidence, scientific and social scientific research, in the making of policy – a considerable convergence among the many distinct kinds of research and commentary on EBP; the divergence in view – at least in the three best informed schools of thought – is not about what happens, but about its significance for the project of EBP. If many, albeit contestable, studies all point in the same direction, there may be value in looking that way. The study of the making of public policy is not a science and it is not about to become a science. We are nevertheless interested in knowing what those who have tried to study it have observed and concluded.

Four perspectives on EBP: the *Reinforce* school

One can divide the conclusions from scholarship on EBP into four schools of thought. This is not a conceptually airtight typology. Some students of EBP might reasonably be placed on the borderline of two categories. The purpose is simply to employ a convenient heuristic to cope with the stylised facts of EBP research. For different typologies, see Head (2016, 473–4) or Newman (2017).

The *Reinforce* school wonders why the obvious merits of EBP have not yet dawned upon governments. This school considers that the onus is on public persons and public institutions to get with the programme of EBP (Cairney, 2016, 104; Fleming and Rhodes, 2018, 4–6; Greenhalgh and Russell, 2009, 305–6, 307–8, 311; Haynes et al, 2012; Heinrich, 2007, 259; Newman, 2017, 216–17; Stilgoe et al, 2006, 57,

69). The role (Jasanoff, 2013, 62) of ‘scientific advice...is to keep politicians and policymakers honest by holding them to high standards of evidence and reason’.

For many members of the *Reinforce* school, if policy is not made on the basis of evidence, then it must be made on the basis of some unedifying motivation: self-interest, power, ideology, ignorance, naked electoralism, co-optation by ‘elites’, craven submission to ‘interests’, and so forth. The possible roles of principle, prudence, compassion, historical commitment, or respect for public opinion, are ignored.

The literature of the *Reinforce* school is hortatory and advocative in nature. Governments are told they *should* do this and that (Haynes et al, 2012; Pew-MacArthur, 2014). Their answer to the title question would be shock that it could even be posed: ‘Of course, we need more efforts to apply research findings to policy!’

This school shows little interest in the process of public policy-making nor in the research which has been carried out upon the use of knowledge in policy-making. These are among the people who, as Gluckman and Wilsdon (2016; see also Carden, 2011, 165–6) put it, ‘feel frustrated by the visible failures of evidence to influence policy’ and who (Nutley et al, 2007, 299) endorse ‘the “what works?” type of instrumental knowledge central to the “evidence-based everything” agenda’.

Cairney (2016, 5; see also 19–20, 23–4; De Marchi et al, 2016, 29–30; Parkhurst, 2016, 5) calls this the ‘naïve EBPM view’, an aspirational ‘ideal type’ featuring ‘comprehensive rationality, in which policymakers are able to generate a clear sense of their preferences, gather and understand all relevant information, and make choices based on that information.’ This (Cairney, 2016, 7, emphasis in the original), ‘highlights a potential irony – people seeking to inject more scientific evidence *into* policymaking may not be paying enough attention to the science *of* policymaking. Instead of bemoaning the lack of EBPM, we need a better understanding of ‘bounded-EBPM’ to inform the way we conceptualise evidence and the relationship between evidence and policymaking’.

The *Reinforce* school misses the lesson that a lifetime’s research on knowledge mobilisation confirmed for Weiss (1995, 148) that ‘Research does not win victories in the absence of committed policy advocates, savvy political work and happy contingencies of time, place and funds.’ Weiss and Bucuvalas (1980, 10; see British Academy, 2008, 3; Cairney, 2016, 129; Stoker and Evans, 2016, 265; see also Banks, 2009, 9, on standards for policy research), describe these happy contingencies as follows:

The requisite conditions appear to be: research directly relevant to an issue up for decision, available before the time of decision, that addresses the issue within the parameters of feasible action, that comes with clear and unambiguous results, that is known to decision-makers, who understand its concepts and findings and are willing to listen, that does not run athwart of entrenched interests or powerful blocs, that is implementable within existing resources.

All this means is that for Weiss (1995, 146; see also Andrews, 2002, 109), ‘Most policy research is probably born to die unseen and waste its sweetness on the desert air.’

The *Reinforce* school constitutes the approving audience for the EBP movement. It is important, not for its insight, but for its enthusiasm, and its demonstration of the intuitive and attractive appeal of the basic logic of EBP.

The *Reform* school

The *Reform* school differs markedly from the *Reinforce* school in that it recognises the flaws in what Head (2015, 7; see also Hammond et al, 1983, 293) calls, ‘The traditional science “transmission” model, whereby academic knowledge-producers disseminate their scientific findings and expect others to recognize the superior merit of their work.’

The *Reform* school is concerned to amend or adjust the approach to EBP in order to reap its obvious benefits. It is principally responsible for rediscovering many of the phenomena associated with the use of science in policy-making. The *Reform* school thinks of its work as so many signposts on the pathway to the improved use of scientific evidence in policy-making.

It remains convinced that more research and imagination, on the one hand, and/or improved discipline by key actors, on the other, will unlock the benefits inherent in the EBP idea (for example, Bogenschneider and Corbett, 2010, 23–4; Nutley et al, 2007, 2). Once the evidence on evidence has been assimilated, it should lead to a greater subtlety and sophistication in the EBP movement and a greater sensitivity among policy-makers to the potential of evidence as a support for policy (for example, Gluckman, 2016; Gluckman and Wilsdon, 2016).

The consensus in the *Reform* school would seem to put the priority upon (1) recognising that evidence is most likely to be helpful in enlightening and educating policy-makers rather than providing solutions to specific policy problems, (2) accepting that a variety of types of evidence – beyond that obtained by randomised controlled trials, for example – should be admissible, and (3) the finding that evidence provided by researchers who are in direct and sustained contact with potential consumers among policy-makers is most likely to be influential (for a general overview, see Bogenschneider and Corbett, 2010, 33, 52–4).

The *Reform* school’s answer to the title question would be ‘We can and must do better! Here’s how...’

The *Reinvent* school

The *Reinvent* school uses the same base of evidence on EBP as the *Reform* school does, but concludes that there are such major flaws in the basic premises of EBP that they can only be rectified by major alterations in one or both of research for policy or its management and reception by government. The contrast between *Reform* and *Reinvent* is nicely if inadvertently captured when Nutley, Walter and Davies (2007, 232)

observe that UK initiatives to improve research use have largely adopted a somewhat bounded and conservative approach based on encouraging researchers and policy makers to do a little bit better, and only rarely have they been more radical in nature by seeking to establish fundamentally new relationships between research and policy.

The *Reinvent* school thinks that tweaks to the status quo will not realise the promise of the EBP movement.

For this school, quite fundamental changes to existing practices, turning upon a formal set of procedures for the better management of evidence in policy-making,

are required. Such changes would demand an explicit and emphatic commitment to more intensive management of evidence in policy-making by senior officials, from the demand side, called *governance of evidence*, or on the part of scientists, from the supply side, called *knowledge assessment*. I consider these two approaches to reinvention in that order.

According to Pearce and Raman (2014, 390), ‘The core problem, therefore, is one of epistemic governance: how the production of evidence for policymaking is, and should be, governed...evidence possesses multiple meanings, there are plural sources and types of evidence, and hybrid institutions are required to manage evidence’s inherent complexity.’ What would these hybrid institutions do? Raman (2015, 18, emphasis in the original) argues that, ‘If we are interested in the role that knowledge *ought* to play in policy, then we want to know how this knowledge is produced, what it consists of, how real and potential disagreements are managed, and what forms of evidence are acceptable in pluralistic societies. This is the domain of “epistemic governance”.’

In his recent work, Justin Parkhurst has made extensive recommendations regarding what he calls ‘good governance of evidence’. In Parkhurst’s view (2016, 140), there is a need to balance the contending tensions of EBP and ‘respect for a democratic decision-making process’. This demands an attention, in the first and foundational instance (2016, 142), to:

The establishment of formal evidence advisory systems, designed by a legitimate representative body, which serves to reduce both technical and issue bias in the evidence utilised. It also requires decision authority to rest in the hands of those who are representative of, and accountable to, local populations, and processes to be in place that produce some form of transparency and deliberation with the public.

So good governance of evidence will require auto-regulation of the policy-making process by governments wishing to achieve it (Parkhurst, 2016, 154, emphasis in the original):

Evidence systems will decide things such as: who has the right to speak on expert matters; when and for which sorts of decisions evidence will be invoked; where budgets will be utilised to generate new evidence; and, ultimately, whose interests are represented and promoted from the operation of the evidence advisory system. In these ways...such institutions work to *govern* the use of evidence in policymaking.

If we have understood Parkhurst correctly, the making of policy under good governance of evidence would have to be subject to protocols and audit procedures such as those applicable to, say, programmes for assessment of immigration or asylum claims, or the engagement and the promotion of officials named under merit-based public personnel systems (both of which happen in many democracies to be subject to judicial review). Policy-makers would have to document their actions and choices, so as to permit review for compliance with evidence systems requirements.

This would be a very tall order indeed. As Weiss (Weiss and Bucuvalas, 1980, 33; see also 33–6, 155–6, 162, 172, 264; Hammond et al, 1983, 291–2; Landry et al,

2003, 196; Levin, 2008, 9; Webber, 1991, 15, 18; Weiss, 1982, 623; 1995, 142–3) has repeatedly pointed out, ‘People often cannot tell you which studies they have used or found useful. They do not remember; they do not catalogue references in their minds; they merge social science research with other sources of information; and...they are usually unclear about what using research means.’ Or as Rein (1976, 117) noted long ago:

The influence of research is often diffuse, oblique, and always embedded in the changes it reflects. The process is a complicated one and it is difficult, if not impossible, to isolate the unique role of research and to disentangle whether research is a cause of policy or a consequence of it. For the interplay of knowledge and ideals, political manoeuvre and intelligent problem-solving is bound to be very subtle, ambiguous and complicated – a subject which is itself an important theme for empirical research.

An alternative approach to the management of evidence is premised on the complexity of policy-relevant phenomena (on which more below), which is seen to require greater scrupulousness in the supply of evidence by scientists. In particular, we are to surrender the assumptions of normal science in the Kuhnian sense, and accept that in many important domains, such as climate change or social deprivation, we must live without the hope of consensually sanctioned knowledge to drive us onward. The evidence available will never lift the burden of judgement from our shoulders, but we can be much more honest with ourselves, and more particularly with our decision makers and the public, as to the quality of evidence we are able to supply ourselves.

The solution offered by this tradition within the *Reinvention* school has been christened ‘knowledge assessment’. It involves the systematic screening of research products to ensure clarity and quality control. A variety of protocols, structured to expose the limits, weaknesses, lacunae and contextual linkages of evidence are proposed (Funtowicz, 2006; Saltelli and Giampietro, 2015, 14–23; Strand and Canellas-Boltà, 2006; van der Sluijs, 2006, 74–9), together with vaguely specified gestures in the direction of participation and deliberation (for more than a gesture, see Maasen and Weingart, 2005; Stilgoe et al, 2006). What the knowledge assessors see as ‘extended peer review and extended quality assurance’ (von Schomberg et al, 2006, 156; see also Lentsch and Weingart, 2011, 368–9; Mitchell, 2009, 105–19) appear to be forms of meta-research in which the assumptions of complexity serve as a base for the deployment of a critical apparatus in aid of rating the aptness of any given piece of evidence to serve policy makers. This apparatus is conceptually more elaborate, more searching, and broader than, but not fundamentally different in kind from, traditional disciplinary standards. This would be the ‘critical social science of knowledge applications...that uncovers and raises to a level of explicit consciousness those unexamined prior assumptions and implicit standards of assessment that shape and also distort the production and use of knowledge’ in public policy, for which Dunn (1993, 256) called 25 years ago.

The challenge for these reinvention proposals is that they demand a very large commitment of time and energy on the *processes* of policy-making rather than, or in tandem with, the *outcomes* of policy-making (Hawkins and Parkhurst, 2015, 581). Advocates of *Reinvention* do not, to my knowledge, describe how such regimes might be implemented in real world decision making.

The answer to the title question by the *Reinvention* school would be ‘We have not yet taken EBP seriously enough! Major innovations in analytical practice and policy-making process are required.’

The *Reject* school

The *Reject* school does not deny the value of the best evidence for policy-making; it rejects the pretensions of the EBP movement to offer a fundamental improvement in the making of public policy. It is composed of two related approaches. The first argues that the real world of policy problems is rarely so straightforward as to offer much scope for research which would simultaneously meet disciplinary standards *and* meaningfully address the needs of policy-makers. The second argues that the distinction between evidence and policy-making collapses in the face of the embeddedness of science in the sociopolitical system and of scientists as citizens-bearers of values. The claim that EBP can offer a counter to the politics in policy-making therefore fails, since the politics in question is constitutive of democratic public life.

Let us begin with the first approach. William Byers, in his book, *The blind spot: Science and the crisis of uncertainty* (2011, 59, emphasis in the original; see also Botterill and Hindmoor, 2012; Byrne, 2011, 154; Little, 2015; Mitchell, 2009, 85–119; Montuori, 2008, vii–xliv; Saltelli and Funtowicz, 2014; Saltelli and Giampietro, 2015, 9–13; Sanderson, 2006; van der Sluijs, 2006, 65–7) offers an admirably succinct overview of the position:

What is the connection between our understanding of science and the crises that society is now facing? It is not that science is responsible for these crises but rather that a misguided view of science has been used as an attempt to create an environment that is secure and predictable in situations that are inappropriate. Human beings have a basic need for certainty. Yet since things are ultimately uncertain, we satisfy this need by creating artificial islands of certainty. We create models of reality and then insist that the models *are* reality. It is not that science, mathematics, and statistics do not provide useful information about the real world. The problem lies in making excessive claims for the validity of these methods and models and believing them to be absolutely certain. It is the claim that the current theory has finally captured the definitive truth that leads to all kinds of difficulties.

Why are things ‘ultimately uncertain’? Byers refers to the inadequacies of what he calls (2011, 56; see also Craye, 2006), ‘Classical science...a kind of unambiguous objectivity and certainty’, which underpins (2011, 68), ‘The idea that science will inevitably save us from ideology [which] is itself an ideology...Science does great damage when it turns into ideology, when it begins to worship certainty.’ Science, in this view, must accept its own subjectivity and immanent defeasibility (2011, 164): ‘There is a discrepancy between the story that science tells about itself, which is monolithically unambiguous and the realities of life on the ground, so to speak, in which science is intrinsically self-referential, creative and ambiguous.’

Colander and Kupers adopt a similar position at a level more directly engaged with policy-making, in *Complexity and the art of public policy: Solving society’s problems from*

the bottom up, where (2014, 26; see also Nelson, 1977, 24, 33–6) they argue that ‘the standard policy frame’ must give way:

Within a complex evolving system, control is impossible – the best one can hope for is influence. Simply acknowledging that control of an interconnected society is not possible is a major step. The policy metaphor in the complexity frame changes from an image of government behind the steering wheel driving on a well-lit road, to an image of government trying to drive a car, with the windshield covered in mud, going down an unlit, winding road, with hundreds of people grabbing the wheel.

Does evidence provide solutions? According to Colander and Kupers (2014, 16), ‘In the complexity frame, scientific models provide a vision for policy, not an answer for policy. So how does one arrive at a policy? By touch, feel, and intuition.’ Accepting complexity means surrendering some of the cherished ideals of science as entrenched in the standard policy frame (Colander and Kupers, 2014, 84), ‘In a complex system, there are simply too many variables interacting, too much influence of random events being magnified, for anyone to predict the future’, meaning that (2014, 174; see also Mitchell, 2009, 85–119; Morin, 2008, 21; Sarewitz and Pielke, 2000), ‘Theory will be much messier than we had hoped, and far less helpful.’

In the complexity frame, we face a non-ergodic world with non-linear dynamics, phase shifts, multiple/suboptimal equilibria, path dependency, institutional lock-in, increasing returns, irreversibilities, and a number of other phenomena with which scientists and mathematicians are only beginning to grapple (Castaldi and Dosi, 2006; Colander and Kupers, 2014; Craye, 2006; Johnson, 2015; Mahoney, 2006; Mitchell, 2009; Morin, 2008; Room, 2015; Stone, 2002, 194–7; van der Sluijs, 2006; Wimmer, 2006). Complex systems produce emergent qualities, such that the whole is greater than the sum of its parts, and so frustrate the reductionism of classical science.

In such a world (Morin, 2008, 55) it is impossible to reliably translate intention into effect:

As soon as an individual takes an action, whatever that action may be, it begins to escape from his intentions. The action enters into the universe of interactions and in the end, it is the environment that seizes it in the sense that it can become the opposite of the initial intention. Often the action will fly back at our heads like a boomerang.

As a consequence, Stone (2002, 195) concludes that ‘It is impossible to attribute blame in any fashion consistent with our cultural norm that responsibility presupposes control.’

While some students of complexity and policy hope that in due course complexity science may furnish greater support to policy-making, they are by no means certain when. Others are even less assured (Craye, 2006; Sanderson, 2006, 120–1). For Cairney and Geyer (2015, 459; see also Nathan, 2000, 11, 197), ‘We have to be pragmatic when faced with perhaps insurmountable problems regarding our knowledge and control of the world,’ and for Kiel (2006, 55–6; see also Mitchell, 2009, 86), ‘Attempting to calculate the richness and diversity of the multiple components

contributing to social systems change is likely a hopeless endeavor... This reality may simply be an unchanging constant of the human condition.'

The second component of the *Reject* school comes to much the same conclusions for somewhat distinct reasons. Collingridge and Reeve (1986, 157) claim that repeated disappointments regarding the oversight of technology by the state mean that while

We are convinced that science ought to do better than this in informing policy. The answer is not to undertake some root-and-branch reform of the policy process, so that it can better utilise the discoveries of science, nor to seek fundamental changes in the conduct of scientific research that would make its products more acceptable to policy-makers. Rather, our expectations must be adjusted to what science can really deliver to the policy-making process,

and that is more or less what it currently delivers: if we drop 'The myth of rationality... then policy-making involving technical issues can be seen as essentially the same as decision-making in any other kind of issue.' Science and evidence are morally compromised to the same extent as the rest of the body politic, as well as – insofar as policy is concerned – subject to significant epistemological limitations (Botterill and Hindmoor, 2012).

Little (2012) explores the implications of complexity for policy-making and concludes that we have failed to understand the ubiquity and inevitability of failure. Success and failure in a democracy must be politically constructed claims (Cairney, 2016, 16; Howlett, 2009, 159; Little, 2012, 6, 10; Nathan, 2000, 104, 184). 'The complex terrain of contemporary democratic politics is... *constituted* by failure... there is a "constitutive failure" at the very heart of democratic politics in complex societies,' concludes Little (2012, 7, emphasis in the original). However, he (2012, 11, 14-5, 17) is not resigned to a stagnating polity; on the contrary, he accepts failure and the experience it offers in order to do better next time. If we have understood Little correctly, however, he does not count upon classical science producing evidence as more than a minor influence upon the experience and judgement required to do better in a complex environment (Little, 2012, 16): 'In suggesting that we need to engage with the ideas of error and failure... we should relinquish the epistemological certainties... and concentrate instead on thinking about the unknowability of outcomes... this free[s] political argument from a hostage to fortune – successful outcomes – which discredits the whole of democratic politics.' In communist Eastern Europe, citizens used to say 'We pretend to work and they pretend to pay us.' Little thinks that public persons should stop pretending to know so that citizens may stop pretending to believe them.

The *Reject* school's answer to the title question would be to share Mitchell's (2009, 118) conclusion that 'a search for the one, singular, absolute truth must be replaced by humble respect for the plurality of truths that partially and pragmatically represent the world' and Lunn and Ruane's (2013, 7) 'that the evidence-based policy approach is much more limited in what it can achieve than many of its proponents claim'.

Conclusion

There is a contradiction or ambiguity in the local and global advocacy of EBP. It seems that most of this advocacy betrays a conviction of the obvious *prime facie* merits

of the idea, such that it is itself innocent of much evidence. To the scientifically trained, and to those social scientists who take their ‘science’ seriously, the idea that policy can benefit significantly from much greater use of research results seems to be an idea that sells itself. There appears to be no perceived need to read the literature on EBP or on the making of public policy.

Sir Peter Gluckman (2017), the doyen of global science advising, repeatedly warns his audiences that scientists should beware of hubris. It is remarkable how often similar themes – modesty, humility – emerge in studies of EBP and related issues, such as Pawson’s (2006, 167) conclusion that ‘Above all, one must be modest in reflecting faithfully the limited authority of evidence itself. Good science is not futurology; we should always be humble about predicting the path ahead on the basis of what we know about the one already trodden.’ This review located more than a dozen such admonitions.

It is unlikely that this situation – a wide variety of views on the viability and imminence of EBP – will change anytime soon. As long as the socialisation associated with doctoral work in the empirical disciplines remains as it is, there will always be sympathy for rationalist assumptions and puzzlement that they do not seem to have more application to the world of practice.

Those in the *Reform* and *Reinvent* schools who have devoted significant time and effort to EBP would mostly share Head’s (2016, 475) conclusion that ‘The search for evidence-informed policy and practice will be a long and arduous journey,’ and the latter school might endorse even Pawson’s declaration, his own commitment to EBP notwithstanding (2006, viii), ‘There is no such thing as evidence-based policy. Evidence is the six stone weakling of the policy world,’ while elsewhere in the world of academia and the foundations, in the *Reinforce* school, optimism about EBP remains (for example, Pew-MacArthur, 2014).

Those who wish to address the challenges facing EBP in a fully informed fashion need to (1) develop a realistic grasp of the task environment of ministers and senior officials, that is, one which goes beyond the ritual lament about their inexplicable failure to attend to research and expertise (Aaron, 1978; French, 2012; Heymann, 2008; Nathan, 2000; Schuck, 2014; Stevens, 2011); (2) address the naïve decision theory, grossly overestimating analytical rationality – which is widely spread among academics, researchers and editorial writers – through the cognitive psychology of decision-making (Ambady, 2010; Betsch and Glöckner, 2010; French, 2014; Haidt, 2001; 2012; Kahneman, 2011; Lakoff, 2009; Parsons, 2002; Plessner et al, 2008; Westen, 2008); (3) given the major conclusion in the EBP literature that *direct and sustained relationships between researchers and policymakers are the optimal method for promoting the use of research in policy-making*, assess to what extent this is compatible with the career exigencies of the twentieth-century university and how its prospects might be increased (Davies et al, 2015, 129; Gagliardi et al, 2016, 2); and finally, in light of the above, (4) compare the startling variety of prescriptions from the *Reform* and *Reinvent* schools of thought (see above, and Banks, 2009, 9; British Academy, 2008, 3; Cairney, 2016, 129; Stoker and Evans, 2016, 265; Weiss, 1995, 148) and attempt to arrive at a realistic consensus.

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Note

¹ The references omitted for reasons of space are included in the version of this paper accessible at https://sciencessociales.uottawa.ca/affaires-publiques-internationales/sites/sciencessociales.uottawa.ca.affaires-publiques-internationales/files/ebp-4_final_.pdf

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