Educating Leaders in Sustainability using History

Educating Leaders in Sustainability using History

By

Elizabeth Summerfield

Educating Leaders in Sustainability using History

By Elizabeth Summerfield

This book first published 2023

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

For my children and grandchild.

Defy the disciplines. In spite of what you majored in, or what the textbooks say, or what you think you're an expert at, follow a system wherever it leads. It will be sure to lead across traditional disciplinary lines. To understand that system, you will have to be able to learn from–while not being limited by–economists and chemists and psychologists and theologians. You will have to penetrate their jargons, integrate what they tell you, recognize what they can honestly see through their particular lenses, and discard the distortions that come from the narrowness and incompleteness of their lenses. They won't make it easy for you.

—Donella Meadows

TABLE OF CONTENTS

CHAPTER 1

ENVIRONMENTAL "WICKED" PROBLEMS

In the last two decades in Australia, there has been growing concern amongst public policy makers and leaders about the major social and environmental challenges faced by the nation.[1] These challenges contain a complexity beyond simple cause and effect relationships and require messy and incomplete solutions that involve multiple actors. These are often referred to as "wicked" problems in the management literature.[2] They are declared to be unprecedented in kind and often global in reach, requiring both national and transnational responses.[3] As a consequence of their novel and international nature, reform agendas stress the demand for innovative twenty-first century solutions.[4] The preference for management research as an evidence base for leading change in organisations and individuals can be seen in the reference lists of these policy publications.[5]

The focus on sustainability for the future can lock thinking in the conceptual realm of theory rather than grounded empiricism and, consciously or unconsciously, ignore the past as irrelevant to the solutions demanded to address current problems. Dictionary definitions of "innovation" invariably contain the word "new", the antithesis of the past or "old". This book begins from the premise that the history of environmental management has a powerful contribution to make to innovative thought and action leadership in the present for the future. It argues that the traditional focus on the new in the theory development in the field of management and organisation studies has often ignored past knowledge. Paradoxically, investigating the past has the potential to unlock new ideas that may be useful to address current and future environmental management problems.

---

[1] Australian Public Service Commission, *Tackling Wicked Problems: A Public Policy Perspective* (Canberra: Australian Public Service Commission, 2007).
[2] ibid.
[3] ibid.
[4] ibid.
[5] ibid.

        The examples of recent policy papers that follow testify to the ubiquity of management literature as an evidence base, and the general absence of historical thinking. But amongst them is one that contains tentative signs of the contribution to management knowledge and education history may offer. In 2007, the Federal Government produced a discussion paper titled *Tackling Wicked Problems: A Public Policy Perspective.*[6] The Public Service Commissioner declared that adequately addressing such problems was an "evolving art" in which it was vital to recognise that no "quick fixes" or "simple solutions" were possible.[7] An important first step was "grasping the big picture, including the interrelationships among the full range of causal factors".[8] This capacity for holistic vision was seen as unfamiliar to established modes of educating leaders and citizens alike. Essential to defining new approaches to managing, these problems would be a "reassessment of some of the traditional ways of working and solving problems" that would be inclusive of all "stakeholders and citizens".[9] Critical environmental problems were named as two of four specific examples. Climate change and land degradation contained both multiple causes and effects and involved a broad spectrum of the community.[10] In relation to climate change, the Commissioner declared it to be:

> a pressing and highly complex policy issue involving multiple causal factors and high levels of disagreement about the nature of the problem and the best way to tackle it. The motivation and behaviour of individuals is a key part of the solution as is the involvement of all levels of government and a wide range of non-government organisations (NGOs).[11]

Explicit to a sustainable future was the core requirement of changing the thinking and action of individual leaders, citizens and relevant public and private sector organisations. How this was to be approached was articulated in a companion publication *Changing Behaviour: A Public Policy Perspective.*[12] Explicit too in the reference lists of both documents is the evidence base used to frame the publications, which drew almost exclusively on management and organization literature.

---

[6] ibid.
[7] ibid., iii.
[8] ibid., iii.
[9] ibid.
[10] ibid, 1.
[11] ibid, 1.
[12] ibid.

History for tackling wicked problems

In 2009 the abstractions of this policy language were shockingly grounded in the realities of a sequence of natural disasters which began on 7 February 2009 in Victoria. On this day, Australia experienced its worst bushfire in recorded history. One hundred and seventy-three people lost their lives in a firestorm that swept in one direction then another across forests under some of the most severe fire weather conditions in the world. A Royal Commission was established immediately. It served both as a symbol of the impact of the extraordinary catastrophe and a mechanism for the formal investigation of its causes and remediation. By 2010 sixty-seven recommendations had been produced with a sweep as comprehensive as the tragedy to which it responded. These included recommendations designed to effect long-term, national changes in specialist and citizen behaviour alike. For example, in Recommendation Six the Commissioners intended to leverage the innovation of the first national education curriculum to ensure subsequent generations of Australians acquired a level of environmental literacy and self-management that would keep them safe in future firestorms. The recommendation was that

> Victoria lead an initiative of the Ministerial Council for Education, Early Childhood Development and Youth Affairs to ensure that the national curriculum incorporates the history of bushfire in Australia and that existing curriculum areas such as geography, science and environmental studies include elements of bushfire education.[13]

Similarly, under the heading "Research and Evaluation" the Commissioners sought to implement a research agenda that was explicitly interdisciplinary in its reach, incorporating the sciences and social sciences, the forests, and the people who live in them:

> The Commonwealth establish a national centre for bushfire research in collaboration with other Australian jurisdictions to support pure, applied and long-term research in the physical, biological and social sciences relevant to bushfires and to promote continuing research and scholarship in related disciplines.

These two recommendations, focussed on general education and research, have since been expanded in policy responses to a series of more recent

---

[13] Victorian Bushfires Royal Commission, 'Final Report Recommendations', Recommendation 6. http://www.royalcommission.vic.gov.au/Assets/VBRC-Final-Report-Recommendations.pdf, 1.

environmental disasters.[14] They reflect a pervasive theme in recent environmental management literature – that of the foundational importance of "co-management" and "social learning" by all stakeholders.[15] Such research powerfully reinforces the necessity of developing flexible and adaptive thought for action amongst leaders, managers and the general public alike.

The Royal Commissioners' Recommendation Six stands out in naming history as a key discipline for affecting this change in behaviour. Management research and public policy papers that enlist their findings as an evidence base are more dependent upon those disciplines with positivist, rather than humanist, methods. Perhaps it was in subsequent deference to this methodological preference that the Commissioners' emphasis on the value of history was significantly diluted in implementation.

Aims and objectives

This book aims to explore the potential contribution of history to changing behaviour in response to environmental "wicked" problems. It argues that the accessibility of historical narratives to both lay and specialist audiences can expand the evidence base and influence theory in ways that complement the positivism of the social and environmental sciences. It does so through the case study of environmental management history, framed by management theory, in response to the call from environmental historians for a more pragmatic environmental history that actively engages with other knowledge systems.[16]

The rationale for the selection of the particular management theory and historical environmental problem for this case study follow.

---

[14] See for example, N. Dufty, "Engagement or Education?" Australian Journal of Emergency Management. 26,3 (2011): 35-39.
[15] See for example, P. Olsson, C. Falke and F. Berkes, "Adaptive Co-management for Building Resilience in Social–Ecological Systems," Environmental Management 34(1) (2004): 75-90; D. Armitage, M. Marschke and R. Plummer, "Adaptive co-management and the paradox of learning," Global Environmental Change 18(1) (2004): 86-98.
[16] S. Dovers, "Sustainability and 'Pragmatic' Environmental History", Environmental History Review, 18(3) (1994): 21-36; S. Dovers, 2008, "Can Environmental History Engage with Policy", History Australia, 5(1): 3.2-3.6.

Environmental history framed by management theory

While environmental history seeks to produce research across the disciplines, particularly of science and history, it retains a strong humanities footing.[17] Leading environmental researcher and practitioner of environmental history Stephen Dovers has argued that the latter can lead to the production of knowledge that, though of inherent interest, is not matched by the pragmatism needed if the field is to have broad impact in achieving an environmentally sustainable future.[18] In order for this to occur, he argues, environmental historians must more actively engage with other methodologies that have an accepted capacity in the current management culture of decision-making to influence change, such as management and organisation scholarship.

In 1994, Dovers' call for more "pragmatic" studies in environmental history that would make a direct contribution to sustainability research, in addition to being of inherent interest to academic historians.[19] By 2008, Dovers still believed in the capacity of environmental history to positively influence change for sustainable living.[20] Responding to the question "can environmental history help save the world?", he answered with a qualified yes. But it still needed, he said, to "better engage with modern policy debates and negotiate its interactions with other knowledge systems".[21] Dovers' argument for a more applied environmental history included his and colleague Eric Pawson's claim that history can act as an "interdiscipline".[22] Such a claim resonates strongly with the scholarship of some applied historians and historiographers.[23] It also begins to shed some

---

[17] T. Griffiths, "The Humanities and an Environmentally Sustainable Australia", Australian Humanities Review 43 (2007).
http://www.australianhumanitiesreview.org/archive/Issue-December-2007/EcoHumanities/EcoGriffiths.html.
[18] Dovers, "Sustainability".
[19] ibid.
[20] ibid.
[21] ibid, 3.2.
[22] E. Pawson and S. Dovers, " Environmental History and the Challenges of Interdisciplinarity: An Antipodean Perspective", Environment and History 9, 1 (2003): 53-75.
[23] See for example, J. Appleby, L. Hunt and M. Jacob, Telling the Truth about History (New York: W.W. Norton & Company, 1994); H. Stretton, The Political Sciences (London: Routledge and K. Paul, 1969); J. Tosh, The Pursuit of History (London: Routledge, 2010); G. Davison, "Paradigms of public history", Australian Historical Studies 24(97): 4-15.

light on the potential value of the discipline alluded to by the Bushfire Royal Commissioners.

Similarly to Dovers' interest in applied environmental history, management scholars have debated and promoted the role of the historical method in broadening the scope and impact of management research.[24] This has been part of a larger call for greater relevance of academic research to management practice, and the need for fundamental changes to theorising.[25] In a comprehensive summary of the epistemological and ontological debates so far, Matthias Kipping and Behlul Usdiken, identify three categories for the use of history in management scholarship.[26] These are "history *to* theory", "history *in* theory", and "historical cognizance".[27] Their stated purpose is to increase the visibility and influence of history in management and organisation theory for the expanded evidence base the discipline can offer, as well as the enhanced relevance this can bring to the application of theory. In terms of their categories, this book employs that of history *to* theory. Kipping and Usdiken define this category as history serving as evidence to "develop, modify or test theories". [28]

The book will make a conceptual and empirical argument that brings together the established preference of management disciplines for theory, and the more dominant empiricism of the historical method. In doing so, it proposes one way of achieving a pragmatic environmental history that could contribute to changing the behaviour of leaders and citizens alike, and help to validate or modify management theory. Its principle purpose is to make the contribution of an exploratory case study to Dovers' plea for more pragmatic environmental history.

---

[24] See for example, G. Jones, M. van Leeuwen and S. Broadberry, "The Future of Economic, Business, and Social History", Scandinavian Economic History Review 60(3) (2012): 225-253; G. Jones and D. Wadhwani, "Schumpeter's Plea: Rediscovering History and Relevance in the Study of Entrepreneurship," Harvard Business School, Working Paper 29, (2007).
http://www.hbs.edu/faculty/Publication%20Files/06-036.pdf.
[25] R. Suddaby, C. Hardy and H. Quy, "Where are the New Theories of Organization?" Academy of Management Review 36(2) (2011): 236-248.
[26] M.Kipping and B.Usdiken, "History in Organization and Management Theory: More the Meets the Eye," The Academy of Management Annals 8(1) (2014): 535-588.
[27] ibid, 535.
[28] ibid, 536.

Method

The primary audience envisaged for the book is environmental history scholars. But, as a piece of pragmatic historical research, it also envisages an audience of environmental management scholars and practitioners. The historical narrative that forms the centrepiece of the book also aims to speak to lay audiences. This range of target audiences was developed in response to calls in the academic literature and public policy documents for including stakeholder education to achieve the "co-management" required to address complex environmental problems. Given the breadth of audience, this book offers a case study which combines analysis of relevant theory with historical narrative. The narrative analyses the leadership of the innovation of forestry in Australia (primarily) and the United States (comparatively). The comparison aims to draw generalisations about the development of successful leaders.

The management theory used to explore the contribution of history is drawn from the literature of environmental wicked problems. Systems thinking, a sub discipline of management scholarship is seen as key to the definition and management of "wicked" problems generally and environmental wicked problems specifically.[29] Within this branch of management research, leading systems thinker Peter Senge, along with colleagues Otto Scharmer, Joseph Jaworski and Betty Sue Flowers posited the Theory of the U in 2005 in *Presence: Exploring Profound Change in People, Organizations and Society*.[30] The theory proposes that it is not enough to examine the "what" and "how" of leadership, the most commonly studied areas of behaviour. Critical to understanding the quality of leadership is the much less examined who of the leader, the foundational elements of the person leading, which in turn provide a much clearer insight into the rationale for the what and how of their leadership. The theory has since been further refined by Otto Scharmer, with a particular emphasis on "leading from the emerging future", reflecting the usual temporal preference of management scholarship for the present and future

---

[29] R. Horn and R. Weber, "New Tools for Resolving Wicked Problems", Strategy Kinetics LLC (2007).
http://www.strategykinetics.com/New_Tools_For_Resolving_Wicked_Problems.pdf.
[30] P. Senge, J. Jaworski, O. Scharmer and B. Flowers, *Presence: Exploring Profound Change in People, Organizations and Society* (London: Nicholas Brealey, 2005).

rather than the past.[31] Drawing on Kipping and Usdiken's work, the research questions for the book that relate to the theory are: does an historical case study of successful management of a complex problem support the validation of the theory? Moreover, does the case study suggest modifications to the theory for further research?

The Theory of the U acts as a relevant case study of management theory for the book and is used to select and frame the questions raised by the historical evidence. The history of a complex environmental problem – that is, the innovation of the first formal Australian forest authority – is used to produce new environmental historical knowledge, and to test, and possibly modify, the Theory of the U.

Management theory and systems thinking

Since their definition in the seminal article by Horst and Rittel in 1973, the complexity of wicked problems has been recognised as containing "systems of systems".[32] Systems thinking is a sub discipline of management which is concerned to redress the traditional fragmented approach to problem solving through a holistic apprehension of problems and an iterative effort towards resolution based on continuous feedback provided by the system itself. Problems of environmental sustainability are acknowledged to be complex in nature and unresponsive to linear cause and effect treatment.[33] Such problems involve human as well as natural ecosystems, including multiple stakeholders such as agencies, managers, policy-makers, scientists, politicians and the general public. The Theory of the U was conceived with both individual and collective application in mind.

A key element of the theory is what its authors call the "blindspot" of leadership, which may be found in individuals, organisations or society as a whole.[34] Analysis of leadership, they say, has typically focussed on the "what" or the "how" of response to problems. This leaves unexplored the "who" of leadership, "the inner place or source from which we operate, both individually and collectively".[35] The ability to acquire

---

[31] O. Scharmer, "Leading from the Emerging Future", Paper presented to Federal Ministry for Economic Cooperation and Development, November 13, 2011, Berlin.

[32] Horn and Weber, "Tools for".

[33] P. Balint, R. Stewart, A. Desai, and L. Walters, *Wicked Environmental Problems: Managing Uncertainty and Conflict* (Washington: Island Press, 2011).

[34] O. Scharmer, "Uncovering the Blind Spot of Leadership", Leader to Leader, 47 (2008):52-59

[35] Senge et al., *Presence*, 5.

and access the self-knowledge as a basis for leaders to determine the "what" and the "how" of leadership, argue Senge et al., has largely been absent from research. The authors point to the existence of this wisdom in the past – more specifically, the remote ancient philosophies of Greece and China.[36] The more recent history of the Industrial Revolution, Senge argues elsewhere, has produced instead machine-like thinking and action and caused the current crisis of leadership for sustainable societies.[37] Case studies for exploring the nature of the "who" of leadership are generally limited to the recent past.

It is argued that a more rigorous approach to history linked with systems thinking, particularly the Theory of the U, can contribute to the evidence base of the theory. Furthermore, it can offer constructive models from the Industrial era to support the tackling of contemporary environmental wicked problems. The historical case studies of complex problems – that is, the introduction of scientific forestry in Australia and the United States – are drawn from the industrialising nineteenth century. In these cases, the development of the "who" of leadership is examined through their formative learning environments.

Historical case studies: leadership for introducing scientific forestry

The first historical case study begins by reconstructing a complex environmental problem of nineteenth century Australia: the diminishing forests in the colony of South Australia. The narrative of the thought leadership of parliamentary debate about forestry in the first half of the 1870s is recounted in detail in order to argue that "wicked" problems have precedents, not in their specific historical content, but in their relative complexity. Revealing that complexity not only offers evidence of precedence, but also provides an empirical case study from which constructive lessons can be learnt about how to, or how not to, think and act when confronting contemporary wicked problems.

In order to examine the "blindspot" of leadership, three key figures in Australia's first formal forest authority, the South Australian Forest Board (and the first in an independent British colony of the Commonwealth), are investigated in more detail: George Goyder, Surveyor General and Chair of the Forest Board; John Ednie Brown, first

---

[36] ibid, 179.
[37] P. Senge, 2012, "Creating Schools for the Future, not the Past, for All Students", Leader to Leader, 65 (2012): 44-49.

Conservator of Forests; and Boyle Travers Finniss, ex-Premier and member of the Board. The Board, the first such body in Australia, was established in 1875 and was the outcome of five years of parliamentary debate. The "who" of each man's adult leadership style is examined through the reconstruction of the ways in which they learned to think, see and act in their environments. Such consideration of the individual themselves as a complex system in a continual process of evolution is not new. Senge's research has also expanded to include the quality of education, recognising not only its formative effect on the adult but also the value of applying systems thinking principles to schools as organisations and children as prospective citizens and leaders. In doing so, Senge has been mindful of the statement by prominent twentieth-century leader of organisational quality improvement Edward Deming, that

> the prevailing system of management has destroyed our people. The destruction starts with toddlers. . . .
> The fundamental task of leadership is transformation of this system . . . [which is] the same system in education and business.[38]

Senge quotes Deming as a prelude to arguing that the industrial age produced a school system that reflected the highly mechanised and specialised forms of work demanded by societies undergoing industrialisation. The transition of societies in the twenty-first century out of the industrial age, he argues, demands new modes of learning to produce a more humane, holistic and less machine-like approach to educating future citizens and leaders.[39]

The educational histories in the book provide a comparative insight into successful and unsuccessful leadership and between successful leaders to suggest successful principles for such education. In Senge's research these have been overlooked in the large generalisations about historical epochs such as the industrial age. The value of such examples to current management research and practice is in the distillation of essential educational principles that may be applicable across the continuum from childhood to adult learning for contemporary leadership development.

In order to test the hypothesis that there was a significant connection between formative learning and successful adult leadership, the comparative case study of Gifford Pinchot's leadership is reconstructed from the historical evidence. Pinchot was instrumental in establishing the first United States Forest Service in 1905 under the presidency of

---

[38] ibid, 44.
[39] ibid.

Theodore Roosevelt, and is considered to be the "father" of US forestry. The analysis of his educational history aims to counter the methodological problem in leadership biography summarised by Geoffrey Jones and Daniel Wadhwani that "the primary drawback with such studies arises from deriving meaningful generalizations about entrepreneurship from individual cases". [40] By examining the educational influences of Gifford Pinchot and comparing these with those of George Goyder, a sounder argument can be made for the essential learning principles that shape the judgement of leaders capable of addressing wicked problems. The inclusion of Gifford Pinchot also seeks to test the hypothesis that in the industrial age, as now, the problems of forestry were transnational. While the specific historical context and kind of problem were clearly vastly different from present times, the complexity of problem formulation and resolution can be seen to have strong parallels.

       The following are the research questions asked of the historical record:

What were the difficulties of introducing scientific forestry in the 1800s in Australia, and how do they resemble those of a contemporary "wicked" problem?

What did leadership of the problem look like at different stages of its evolution?

How had leaders learned early to see their environment, and how did this impact their adult leadership?

What are the similarities and differences between the education of the successful Australian leader of forestry and his USA counterpart?

What are the lessons to be learned for the leadership of present and future complex environmental problems from these case studies?

Contribution to theory and practice

This book aims to make a contribution to knowledge in two ways: by developing an exploratory case study of environmental history framed by

---

[40] Jones and Wadhwani, "Schumpeter's Plea".

management theory as one method for contributing to "pragmatic" environmental history; and by forming a new piece of environmental management history.

The narrative of environmental management history consciously engages historical study with other "knowledge systems" to enhance its potential application. It is not surprising that much of the literature that examines the role which history could play in management and organisation research is written by scholars trained within the field. This book, instead, approaches the combination from a predominantly historical perspective, but shapes the historical research using theories from management and organisation studies.

Specifically, the application of the Theory of the U to the historical material aims to contribute new knowledge for application across specialist environmental managers, educators, policy-makers and lay community members interested in the first principles of the what, how and who of thinking and action for sustainable living in a complex social and natural environment.

The book begins with a review of the conceptual case for history's contribution to the understanding and resolution of complex, or "wicked", environmental problems. This is followed by the construction of the historical case study. It outlines the chronology and detail of the introduction of public forestry in the South Australian parliament in 1870. In order to demonstrate the complex nature of the environmental problem the chapter does not condense the parliamentary discussions but seeks to reveal the messy protractions and convolutions of debate. The discrete stages of progression from idea to legislation to implementation of forestry are described in detail to demonstrate their messiness and protraction. The comparative educational biographies of three of the leaders of formal Australian forestry follows in order to argue the connection between the early education of each man, their consequent ability to think across disciplines and other boundaries, and their success as leaders of environmental innovation. The conclusions drawn from the Australian case study of environmental education for successful leadership are then tested through a comparison to Gifford Pinchot, the founder of forestry in the USA. The comparison acknowledges the global nature of major environmental problems, historically and currently. The comparison also demonstrates that Australian environmental history has a contribution to make to the transnational discussions of leadership development for successful management of complex environmental problems. A concluding chapter draws together the historical evidence to make the case for the contribution of history to resolving complex environmental problems. It

concludes by applying the lessons learned about successful leadership of such problems to the present example of the selected recommendations of the Victorian Bushfire Royal Commission on education and research.

CHAPTER 2

ENVIRONMENTAL HISTORY
AND LEADERSHIP THEORY

The previous chapter proposed that pragmatic environmental history has a contribution to make to a better understanding and resolution of today's complex environmental problems, or "wicked" problems as they have been called in the management literature. The book offers one model for the increased engagement of history with other knowledge systems, which leading Australian environmental scholar Stephen Dovers argues is essential to demonstrating the applied value of history.

The opportunity was outlined for environmental history's engagement with recent management and organisation research interested in expanding the epistemological foundation of their field by including the historical method. It outlined the call from some environmental historians for a more pragmatic history, and the view of some management and organisation scholars that history has a greater contribution to make to the inherently practical purposes of their research. It also indicated that the management sub-discipline of systems thinking, which is key to addressing complex environmental problems, has not exploited rigorous historical research for its purposes.

This chapter expands on the outline of the previous chapter to examine more closely the literature of applied history and environmental history to see what historians have said about the potential application of their discipline to the consideration of current policy and practice leadership. It does so to explore the question: is there an inherent public value already evident in the discipline? And, if so, is there a need for a more pragmatic environmental history as Dovers argues? A review of the discussions about the value of history to management and organisations research follows. This looks at the practical value of history from the perspective of a field that occupies a powerful place in providing evidence-based research for public and private leadership, including environmental leadership. It does so to explore Dovers' proposition that history engage outside its own discipline to render its findings more

directly pragmatic. It asks the question: can environmental historians render their primarily humanist, empirical research more pragmatic by inhabiting the different positivist, theoretical tradition of management and organisation research?

Chapter 2 provides an expanded rationale for the selection of the systems thinking Theory of the U, and the historical evidence for reconstructing the narrative of an environmental wicked problem of the past: the leadership of the innovation of forestry. The hypothesis to be tested through this combination is that, because of the temporal focus of much systems thinking on the present for the future, the past has been largely ignored as a potential source of innovative ideas for environmental management, and that framing the research questions of the historical record by this systems thinking theory can provide new historical knowledge to more directly inform present environmental leadership, while also testing the theory.

The primary audience envisaged for this book is environmental historians of management. Chapter 2, therefore, begins by reviewing the arguments from inside the discipline of history generally, and then environmental history specifically. As a secondary audience, the book aims to speak to management and organisation scholars, including systems thinkers, sympathetic to the application of history to their research. It aims to do so principally from the perspective of the historian – that is, by demonstrating the practical insights historical data can offer systems thinking theory. The Theory of the U serves as the case study.

History as a pragmatic discipline

Some historians might take issue with the view, represented by Dovers, that history lacks pragmatism. They value history because, they argue, it offers a complementary kind of knowledge to science – one which has become devalued in relation to the positivist methods of the sciences and many of the social sciences. Historians Joyce Appleby, Lynn Hunt, and Margaret Jacob offer an historical explanation for why society has come to esteem disciplines that practise the scientific method above other disciplines, especially in searching for explanations or solutions to present problems.[1] They describe the consolidation of the Scientific Revolution through the Industrial Revolution in the late eighteenth and nineteenth centuries, and note that the reinforcement of the fragmentation of knowledge begun in the Enlightenment. Religious, affective, spiritual and

---

[1] Appleby et al., *Telling the Truth.*

ethical - or subjective - knowledge was segregated from, and diminished in relation to, apparently value-free, rational, material and mechanistic - or objective - knowledge.[2] Academic disciplines and organisations, which were responsible for the production of knowledge, absorbed the cultural value of esteeming the scientific perspective over other ways of thinking. Even disciplines that studied human behaviour, such as history, began to use scientific methods to try to impose order, predictability and credibility on the human subjects of their study by becoming methodologically similar to their scientific colleagues. The social sciences, they argue, increasingly derived their esteem from this epistemological association with science. But, note the authors, contemporary historians have largely eschewed such mechanistic approaches to the examination of human behaviour, seeking instead to interrogate its full range of complexity and specific contexts.

The Australian historian and public intellectual Hugh Stretton has argued that disciplines which try to emulate science for its replicable certainties must search for regularities regardless of whether or not they produce useful knowledge. Research which truly wants to understand why humans make the choices they do, he said, will look at behaviour that is not quite like anything a physical scientist studies, because it is "neither perfectly predictable nor perfectly inscrutable".[3] The researcher whose definition of rigour requires them to be "as abstract, general, objective, quantitative and unfeeling as they can" will pursue methods that "more often hinder than help the discovery and understanding of social facts".[4] Stretton asserts that the purposes and methods of the scholar of human endeavour who creates useful knowledge will be quite unlike those of the physical scientist. Their purposes are likely to include the civic, social, political and instrumental value of what they learn, and their methods will not be confined to those of the quantifier. Stretton also challenges the common view of the value-freedom of mechanistic and statistical data that aims to measure human activity. Such a view contained, he argued, a false promise of objectivity and a false credibility that derived its status from falsifying comparability to the data of inanimate objects gathered by physicists.

Appleby et al. share Stretton's view that history offers a different kind of objectivity in knowledge creation. In doing so, they note with disappointment the "enduring dichotomy" of positivism which has set up a false contest between "absolute objectivity and totally arbitrary interpretations

---

[2] ibid, 17.
[3] Stretton, *Political Sciences*, 164.
[4] ibid, 159.

of the world of objects".[5] Rigour, in this context, is always measured in terms of scientific method and outcome. They instead suggest the adoption of a "practical realism" when interpreting human behaviour. Such realism prizes rigour while acknowledging the inescapable interplay of subjectivity and objectivity in the construction of genuine knowledge about human beings, who are clearly of more complex construction than the physical objects able to be studied by the scientific method.[6] In the interplay between man and nature, which is the basis of environmental history, the arguments of these historians offer a valuable warning to remember the distinction between the two subjects of research. They also argue that the pragmatism of the discipline of history derives, from its exploration and elucidation of the complexity, the contingency and the contextual detail of phenomena. If pragmatism is to be assessed by the generation of replicable laws of theoretical constructs that seek to define and predict human behaviour on a large scale, as is the case with economics or the physical sciences, then history will not qualify – nor will decision-makers or leaders have access to knowledge that could make a practical difference to problem identification and solution.

In addition to those historians who defend the discipline's intrinsic, even practical, value to making meaning of events, there are applied historians who, as their name suggests, seek to make more direct connections between the past and the present for the future. Applied historian John Tosh takes Appleby's concept of "practical realism" a step further in arguing the value of history when applied to contemporary policy matters. He stresses the inherently democratic nature of historical knowledge, its accessibility to a range of audiences, and its potential to engage citizens and professionals alike to influence change. Tosh regrets that, "time and again, complex policy issues are placed before the public [or public managers] without adequate explanation of how they have come to assume their present shape, and without any hint of the possibilities which are disclosed by the record of the past".[7] A deeper understanding of history, argues Tosh, has an inherent contribution to make to rich and meaningful knowledge construction for thought leadership and action.

More specifically, Tosh argues, the contribution of "practical realism" through the historical method offers an "inventory of alternatives" where we can find "patterns of thinking or behaviour that are immediately accessible to us" and from which contemporary generalisations may be posited. The preferred technical approaches to social and political

---

[5] Appleby et al., *Telling the Truth*, 247-251.
[6] ibid.
[7] Tosh, *The Pursuit*, 10.

problems, he says, tend to compartmentalise human experience "into boxes marked 'economics', or 'social policy'…each with its own technical lore". What is needed instead for more purposeful leadership is "openness to the way in which human experience constantly breaks out of these categories"[8]. The lateral links to be found between the compartments are much easier to spot with the benefit of hindsight rather than the immersion of the researcher in what some management scholars call the current "messes" they seek to interpret.[9] Tosh notes that

> more and more historians are now investigating themes of topical relevance. They do so not as a propaganda exercise, but in the conviction that there are valuable insights to be learnt from the findings of historical scholarship…. If society looks to historians for "answers" in the sense of firm predictions and unequivocal generalizations, it will be disappointed. What will emerge from the pursuit of "relevance" is something less tangible but in the long run more valuable – a surer sense of the possibilities latent in our present.[10]

Foregoing universally applicable laws of prediction, therefore, does not mean an acceptance that no human event is open to understanding, generalisation and leadership.

Such apology for the contribution history can make, often expressed by comparison with the superior rigour typically attached the scientific method, itself has a history of over a half century. In 1961 Edward Carr agreed, in a much-read book which is still in print, that scholars of society in the first half of the twentieth century had "consciously or unconsciously desiring to assert the scientific status of their studies, adopted the same language and believed themselves to be following the same procedure".[11] They had subsequently realised that "the human being is on any view the most complex, natural entity known to us, and the study of his behaviour may well involve difficulties different in kind from those confronting the physical scientist".[12] In 1981, reviewing a pioneering piece of Australian environmental history, Hugh Stretton again summarised the key features of that difference. Historical insight offers the capacity to see wholes as well as parts and to be explicitly critical of the

---

[8] ibid, 12.
[9] R. Ackoff, "The Art and Science of Mess Management", Interfaces, 11:1, (1981): 20.
[10] Tosh, *The Pursuit*, 334.
[11] E.H. Carr, *What is History?* (Camberwell: Penguin Group, 1961): 58.
[12] Carr, *What is history?*, 69.

values that influence behaviour in particular contexts, including those of the historians themselves.[13]

The views of historians on the philosophy and practical value of history to the public good undoubtedly resonate strongly within the discipline in which shared training makes them appear self-evident. However, are they shared by practitioners of the newer sub-discipline of environmental history?

Ideas of environmental history's pragmatism

Environmental historians hold a range of views on the appropriate audiences for, and practical application of, their sub-discipline. As we have seen Dovers, an environmental scholar, has both used and valued historical methods, but has also been frustrated by the field's failure to seek to have a more direct impact on the pressing environmental sustainability problems of contemporary society. More pragmatic environmental history, he argues, would support the necessary dramatic changes needed in public and private environmental leadership. The "notion of pragmatic environmental history", he says, is that which "as well as being of inherent interest and furthering the discipline", serves a social as well as academic purpose. Such history also aims to make a "positive and practical contribution to environmental management and the quest for ecological sustainability".[14] Dovers wants to see a more direct outreach of historians to practitioners of other "knowledge systems" in order for the discipline's potential contribution to be understood and heard beyond those trained to see and appreciate its relevance.

Other environmental historians see the practical value of the field in its public intellectualism. In the example of the 2009 Black Saturday fires cited earlier, Australia's and the United States' environmental historians made a public contribution to the early thought leadership aimed to influence future change.[15] Tom Griffiths noted the paradox of the wealth of practical scientific and emergency management knowledge that had accumulated in Australia since the devastating fires of 1939. However, he also noted the quarantining of that knowledge inside the specialist silos that had generated it and the lack of a holistic management capacity to aggregate those silos for the understanding and solving of the large and

---

[13] Davison, "Paradigms", 15.

[14] S. Dovers, "Sustainability and 'Pragmatic' Environmental History: A Note from Australia," *Environmental History Review*, 18(3) (1994): 21-36.

[15] T. Griffiths, "We have still not lived long enough," Inside Story, February 14 2009, http://inside.org.au/we-have-still-not-lived-long-enough/.

complex physical and social problems the fires made evident. Griffiths then pointed to the extraordinary amount of expert knowledge Australia had acquired since 1939 and our apparently equally mounting failure to act on it.[16] We had seen nothing less than a "revolution in scientific research and environmental understanding", he said. We knew the fire ecology of the forests with unprecedented scientific insight. In fact, we "knew that this terrible day would come". Why, then, had we been powerless to prevent it? Some of the answer, he argued, lay in the segregation of that specialist knowledge from other complementary sources of knowledge, and from public and management practice. Useful knowledge had become isolated inside parts of research or government institutions, lost to its other parts and to a wider public audience that badly needed it rendered in accessible terms for nothing less than their own survival. Part of the correction of the contradiction, Griffiths asserted, lay in all Australians being brought to a greater historical knowledge of their forests and climate, and its impact on their thinking and action in the natural environment. Griffiths argued that the empowerment of the public through access to specialist knowledge, made intelligible by the universality of historical narrative, was key to preventing the recurrence of disaster on this scale. He saw the same potential for improved holistic, or systemic, understanding amongst those specialists who were responsible for creating the knowledge of forests and climate needed to underpin public education, policy and management practice. Historical narrative could deliver these stories to encourage a change in behaviour, too.

American fire historian Stephen Pyne added his voice to the local chorus of bewilderment about Australians' failure to learn from the past.[17] The fires were "a horror", he agreed, "even by Australian standards, which is saying much". But there should have been no mystery about their cause: "Australia is a fire continent: it is built to burn", he declared simply.[18] His bewilderment came from incomprehension about why the Australian public, policy-makers and environmental managers had forgotten this, and thus failed to plan and act accordingly. His hope was that there could be the re-development of much greater awareness of forests and how they function in the Australian climate, and a deep reconsideration of how, as Australians, we live with and act in them.

While Griffiths and Pyne share with Dovers a view of the contribution environmental history can make to changing the thinking and behaviour of specialist leaders and the general public, Griffiths and Pyne

---

[16] ibid.
[17] S. Pyne, "Black Saturday: the Sequel," Peeling Back the Bark, 10 February 2009.
[18] ibid.

place greater value on the persuasive power of historical narrative. These scholars trust the universal accessibility of narrative to carry that change. In a compelling argument for the power of narrative, Griffiths argues that "narrative is not just a means, it is a rigorous and demanding one". While the traditional scientific method separates causes from one another, he says, testing them individually in turn, "narrative … carries multiple causes along together". In doing so, he continues, "it enacts connectivity".[19] Griffiths is keen to promote the "rapprochement" of science and history because "we need both methods" and perhaps because the combination of both will have a more powerful and balanced impact on public leadership. But prominent American environmental historian William Cronon doubts the value of this pursuit.

Cronon has posed the direct question: what are the uses of environmental history?[20] He points to the insights that a reconstruction of the environmental past offers the present, especially for his own most prized audience, the general public. Echoing Griffiths, he believes that historical narrative contains the democratic potential to reach and inform a citizenry who ultimately decide as voters the environmental policies and practices they want pursued by governments, their policy makers and managers. The principal obstacle he sees in attempting to address ahistorical professional audiences is the superior place the positivist methods have assumed in their professional training. They would first need, he said, to be persuaded of the rigour and value that can be found in historical narrative as a means of influencing their practical thinking.[21] He prefers not to spend his time as an apologist for history at the expense of writing for a general public for whom such a defence is unnecessary. In Appleby's terms, he believes they already appreciate as inherently interesting and instructive the "practical realism" historical narrative contains.

But the case Cronon makes for the combined rigour and accessibility of historical narrative for his main audience contains the same potential to influence the other audiences he names – scientists, policy makers, politicians, social scientists and environmental managers – as long as they are open to innovative ways of making meaning of their environments. Story, argues Griffiths, "is actually a piece of disciplined magic, of highly refined science. It is the most powerful educational tool we possess . . . allowing for multiplicity and complexity at the same time

---

[19] T. Griffiths, "The Humanities".

[20] W. Cronon, "The Uses of Environmental History," Environmental History Review, Fall (1993): 1-22.

[21] ibid, 5.

as guaranteeing memorability".[22] In the universality of its mode, narrative
has the ability to transcend the specialisms of training and be instructive
across disciplinary borders. However, Cronon is more sceptical. Perhaps,
like Dovers, he regards the argument of the universal accessibility of
narrative in a management knowledge culture where esteem attaches to the
scientific method, as an unduly optimistic assumption of history's
potential for influence.

         As a practitioner of various disciplines, Dovers is at once hopeful
of and sceptical about the prospects for history's utility in debates about
environmental change leadership. He has successfully employed
environmental history as one of several disciplines in his integrated
investigations of environmental policy and management. For him and
many of his colleagues, the primary audiences are the specialist decision-
makers Cronon does not seek to engage, and Griffiths seeks to engage
through an interdisciplinary mix of science and history. Dovers locates the
power for significant change in politicians, policy-makers, environmental
managers and researchers, as well as the general public. These audiences
are less likely to have historical training, and to appreciate the self-evident
connections of past to present named by historians. Dovers is driven by the
urgent need for thought and action leadership in environmental change. In
an article for *The Ecological Society of America* Fischer, Fazey, Gross,
Dovers and Ehrlich argue that the priority areas for ensuring environmental
sustainability require nothing less than "reforming formal institutions,
strengthening the institutions of civil society, improving citizen
engagement, curbing consumption and population growth, addressing
social justice issues, and reflecting on value and belief systems"[23]. The
ambition of this transnational, cross-sectoral and inter- and intra-
organisational brief, argue the authors, demands an approach that is of
necessity interdisciplinary with direct application to problem solving.
Elsewhere, Dovers makes the case with Eric Pawson for history as a
pivotal discipline in this interdisciplinary mix. They argue that,

         of all substantive foci, past uses of environments and their future
         sustainability have generated greater quantity and diversity of
         interdisciplinary ventures than any other, and so offer a source of much
         needed project narratives, intersections and analyses of interdisciplinary
         engagement. With more elaborate engagement, environmental history,

[22] Griffiths, "The Humanities".
[23] J. Fischer, R. Dyball, I. Fazey, C. Gross, S. Dovers, P. Ehrlich, R. Brulee, C.
Christensen, R. Borden et al., "Human Behavior and Sustainability", Frontiers in
Ecology and the Environment, 10 (2012): 153.