The Sociological Review

The changing lives of measures and values: from centre stage in the fading 'disciplinary' society to pervasive background instrument in the emergent 'control' society

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Abstract: This paper examines the work that measures and values do in policy in the context of an epochal change in the relations between knowledge and policy in Australia. I tell a story of successive attempts to rehabilitate a dying Australian river. The first attempt employs policy as the application of theoretically justified natural knowledge about rivers and their environs. The second attempt occurs after the evidence-based policy era has dawned in Australia. The contrast shows that measures, values and facts about the dying river justified by epistemic practices have been displaced. In an era of evidence-based policy and governance through market mechanisms, measures and values speak to policy through designs that can be bought and sold. In order to be able to better describe this shift I develop an analytic vocabulary to give an account of the intensive properties of what I call enumerated entities, and link the shift to the move from a disciplinary to a control society.

Keywords: control society, modern fact, number, design, enumerated entities, Peirce

Introduction

In this paper I attempt to discern the liveliness of measures and values, or more precisely, 'enumerated entities', as they contribute to contemporary governmentality (Foucault, 2000).[1] My contention is that the status and contribution of measures and values in relation to governmentality has changed in recent times. Formerly a core element in the relation between knowledge and policy, the enumerated entities that comprise measures and values expressed and epistemically justified natural and social orders, as those orders in turn called up and reaffirmed particular forms of measures and values. The foregrounding of measures and values is, however, now receding as science increasingly functions as a service industry. Measures and values have gone from centre stage in a fading

'disciplinary' society to pervasive background instrument in an emergent 'control' society.

Rehabilitating a river and changing policy eras

The story of policy work that lies at the core of this paper concerns the rehabilitation of the Snowy River. The river flows, or used to flow, from the slopes of Australia's highest mountain, Mount Kosziusko, through the southern end of Australia's High Country, falling suddenly to a short, narrow flood plain before flowing into the Southern Ocean. In Australian folklore this river epitomizes the Romantic Bush, but oddly, also National Progress. The water from the top third of the river is diverted through the tunnels of the Snowy Mountains Hydroelectric Scheme to end up on the other side of the mountains to flow west into irrigation country.

The problem with the Snowy River is that, like most of Australia's rivers, it is dying. The Snowy's health has been seriously failing for thirty years. In contrast, during most of the previous century and a half, the Snowy River was 'virile' with snowmelt. Back then 'the problem of the Snowy River' was that its waters ran east and south 'to waste in the Southern Ocean'. Its perceived virility meant it entered Australia's popular imagination. As one concerned scientist put it, 'The Snowy, bless it, is an iconic river, so it has got considerable attention and it is one where if something goes wrong, you can raise the ante . . . [but] who cares [or has even heard] about the Campaspe?'[2]

The Snowy River's morbidity is caused by too little rain, exacerbated by well-documented human-induced conditions: silting associated with advanced soil erosion from excessive cattle grazing in the montane plateau got underway in the 1890s. Still, for 60–70 years the spring snowmelt surges pushed the sand to the banks and eventually washed most of it out to sea. From the 1970s, however, severely diminished flows resulting from the diversion of 99 per cent of its upstream water to generate hydroelectric power and provide water for irrigation farmers on the western side of the mountains pushed the Snowy River to the edge. It became a swampy trickle for most of its length. A 14 km long sand-plug built up near the flood plain town of Orbost. According to the Snowy Alliance, which advocates for the rehabilitation of the river, the promise made under a government agreement in 2006 that 28 per cent of the harvested water would be returned to the river has not yet been implemented.[3]

The dying Snowy River is not the only crisis the folk of Orbost are facing. They are also dealing with the consequences of the demise of a once-thriving farming economy and the end of Orbost's life as a timber town. The limited acreage of the lower Snowy River flood plain means that farming the rich soil is no longer economic in an era of large-scale agro-industry. Severe government limitations on logging in the nearby forest uplands mean that sawmills have closed. That industry too has become a mere remnant, reduced to the cutting and hauling of a few logs for woodchip export. Many Orbost families are losing

their livelihoods. Divisions between sections of the community are rife: greenies against forest workers; farmers against anglers; the employed (mostly by government) against the unemployed. The activities of the Wilderness Society supporting ecotourism fuel rumours that greenies are taking advantage of the dire situation to make more land grabs to tie up large areas in National Parks.

The problems of Orbost and its river reach might well have remained just another instance of Australia's 'dying rural hinterland' problem – interlinked environmental and social decay – if the local advocacy group, the Snowy Alliance, had not managed to get their candidate elected to the Parliament of the State of Victoria in 1999. As it happened, the Snowy Alliance found itself holding the balance of power and precipitated a change in government by aligning itself with the social democratic Labour Party, forcing the conservative Liberal Party into opposition.

It seemed the Snowy's moment had come, and almost immediately a plan for a $1.7 million rehabilitation trial of the Snowy at Orbost was announced. This trial was to be undertaken under the guidance of scientists either employed or contracted to the newly expanded Department of the Environment. However, in a departure from past practice, the trial was to be administered by the East Gippsland Catchment Management Authority (EGCMA). This organization is one of nine semi-autonomous local environmental government commissions operating as non-profit organizations. It was established by the previous Liberal government as part of the civil service reform programme in Victoria instituting the 'new public administration' (Verran, 2009).[4]

Proper process was followed: a Memorandum of Understanding was reached with EGCMA. Feasibility studies, literature reviews and concept plans were commissioned. A Scientific Reference Panel for the trial was appointed in 2001. There was a small hiccup at this point when the Panel 'saw a need to resolve some knowledge gaps to allow more confident decisions to be made regarding the direction of the Trial'.[5] More consulting scientists and engineers were commissioned to produce a Scoping Study. Despite all the proper procedures being followed, still things did not go as planned. Administratively, an experimental trial of river rehabilitation techniques in the Snowy River at Orbost was initiated in September 2000. The trial expressed a long established policy of 're-naturalizing' rivers, a policy supported by well-established environmental theory. But long after the election that the trial was designed to speak to, the project was yet to get underway. The experiment in river rehabilitation never happened! What went wrong?

It seems that the EGCMA asserted its autonomy and diverted the money provided by the government for the trial to other projects. Powerful local interests opposed the experimental rehabilitation work on the grounds that the logs that were to be submerged in the river to encourage scour pools and variations in flow would break loose in a flood and destroy sheds, bridges and fences. The administrative innovation had provided a means for locals to resist the government policy of naturalizing rivers. A thwarted experiment, a never-achieved field laboratory, logs not anchored in the river: the sets of flows-values that

would have epistemically justified the placement of the logs and simultaneously attested the rightness of the policy of (re)naturalization of the river were never registered. There were no values for river flows; knowledge was not produced; epistemic justification was never called into being.

What I want to draw attention to in relating this seemingly insignificant episode is not (only) the local politics in which vested agricultural interests trump established environmental policies, although that continues to be a major issue in Australian environmentalism. Instead, I want to use this expression of local power thwarting government policy to identify something that in the normal course of events could easily be missed: the taken for granted, 'normal', relation between knowledge and government policy, for, in the first decades of the twentieth century, that norm is about to be overturned.

My claim will be that from centre stage in warranting certainty about the characteristics of territory and populations in a 'disciplinary' society, measures and values are now the pervasive instrument choreographing performance of interventions over wealth creation in an emergent 'control' society. In formulating this claim I am adopting terms from Deleuze (1995). Following Foucault, Deleuze names 18th to early 20th century modernity as the 'disciplinary society', and using William Burroughs' term labels what has come after that, beginning in the 1970s, as the 'control society'. Deleuze exhorts us to begin the work of 'establish[ing] the basic socio-technological principles of "control mechanisms" as their age dawns' (1995: 182).

Here I take Deleuze as referring to Foucault's work on governmentality that formed the content of lectures he gave at the Collège de France in 1978–79. Foucault was interested in the emergence of political economy that he associated with the liberal principle that 'One always governs too much . . . [Liberalism asks] why after all is it necessary to govern?' (Foucault, 2008: 319). And he notes, in liberalism there is only successful and failed governance (not legitimate and illegitimate), where success is the generation of wealth. In beginning this series of lectures Foucault lists five points that are indispensible for understanding governmentality. The fourth insight he lists is that political economy:

> Discovers a certain naturalness specific to the practice of [liberal] government itself. The objects of governmental action have a specific nature. . . . Nature is not an original and reserved region on which the exercise of power should not impinge. Nature is something that runs under, through, and in the exercise of governmentality . . . It is not background but a permanent correlative. (Foucault, 2008: 15)

Using Foucault's terms to articulate the change in policy eras, I am asking whether there has been a significant change in the nature that runs under, through and in the exercise of governmentality in Australia. Has the nature that exists with its particular types of objects (measures and values, or as I will call them enumerated entities), as the permanent correlative of environmental government in Australia, changed over the past 15 years? And if so, how? Is it valid to see this in Deleuze's terms as a shift from a disciplinary to a control society? More specifically, is it valid to see this in terms of a shift from mechanisms

which create a closed system or moulds, to those which modulate, continuously changing from one moment to the next, forming a system of variable geometry? (Deleuze, 1995).

Enumerated entities

To answer this question I will foreground the assumptions about relations between knowledge practices and policy practices that are implicit in this story of a thwarted experiment in river rehabilitation. I do this by juxtaposing the first failed episode of river rehabilitation that I have just outlined, with a second episode. In particular I note (in relation to the first episode) the expectation of a direct connection between the facts that might have been produced about the river, and the actions of a government. The assumption was that policy should be directed by theory established by past experimental facts, and should in turn be able to produce new facts: the new facts would attest both theory and the policy.

The second episode, styled as government services for the environment, begins with a call for tenders as part of newly instituted forms of government procurement of an evidence base for river rehabilitation policy design. This form of governmentality proved more difficult to resist, and through a designed intervention the river was duly acted upon alongside the re-making of citizen identities as a 'community' (Verran, 2009). In calling for tenders the government specified the product it sought as the design and testing of in-stream structures to generate measures and values, but crucially also specified the need for extensive public consultation and involvement.

The group that won the tender centred their bid on a laboratory set-up they referred to as 'a physical model' – a model of the river-reach in a huge sand box in the grounds of a nearby university. This was the central methodological element that would gather values for river flows. This 'mobile bed' (25 metres in length and 5 metres wide) in which a scale version of the river-reach would be constructed, provided a strong scientific basis for in-stream structure design. One of the important benefits of this type of model, as described in the bid, was the capacity for members of the 'community' to visit the laboratory and study the model. They could watch the flow of water under various simulated conditions and see a scale model of the effects that the placing of logs in the river at various places would have. Best of all, these visitors could become experimenters themselves and put in simulated logs at their favourite fishing spot to see what would happen with river flow. Visits from various 'community' groups – the local land-care group, groups of school children, local anglers and so on – were to be arranged. And the results of informal experiments made by these groups were to be collated to promote and evidence community involvement in the trial.

The bid further described how the results that emerged from this modelling exercise would be work-shopped with scientists from various biological sciences

– those concerned with fish habitats, those who dealt with riparian vegetation, those whose special knowledge was about local indigenous plants, their propagation and establishment needs. Lists of requirements for meeting the biological needs of a river would be assembled. Groups of children and local volunteers to plant and tend this expanding natural habitat would be recruited and trained. The plans would be presented in several local meetings in a form of niche marketing, and feedback from those meetings was to be incorporated. Also important was an estimate of the total costs of the projected river works and a breakdown of what money should be spent where and when. This would go along with an elaborate schedule and time sequence of events and sub-events.

Following the success of this bid in competition, and the carrying out of the programme of activities it described, a full set of policy recommendations were handed over: designs for manufacture and placement of engineered logjams; lists of values and measures generated in the modelling of these designs in the huge sand-box; analysis of these findings identifying and specifying the hydraulic works needed; accounts of further river works needed to achieve full biological recovery of the river reach; plans for 'community' working bees to contribute to this; lists of plants and plans of their distribution; plans for a school syllabus in environmental studies that could be worked up with a consortium of several local schools.

What are the differences in the two episodes described here? To identify some of the most significant I want to introduce the notion of an enumerated entity, a term that speaks to the material-semiotic liveliness of the numbers that are brought into existence in ordering and valuing. To explain the significance of this term for my argument let me proceed by reference to the work of Mary Poovey on the history of modern facts (1998). In beginning her analysis, Poovey notes how early modern knowledge constituted facts that seemed to consist of non-interpretive numerical description (that is, uncontroversial values) embedded in systematic claims about orders that were somehow derived from, and derivative of, those categories so unproblematically and uncontroversially valued. Numbers, Poovey writes, 'have come to epitomize the modern fact . . . somehow non-interpretive [in valuing] at the same time as they have become the bedrock [order] of systematic knowledge' (Poovey, 1998: xii).

Poovey points to what identify as a peculiar three-step epistemic dance that numbers perform as modern facts and in so doing highlights the importance of my term enumerated entities as a way of acknowledging the ways in which numbering participates in ordering and valuing. In the first step (1) categories are derived as parts of a vague whole (this is the process of ordering); in the second step, (2) categories are (measured and) valued as parts become specified units or elements and are collected; and in the third step (3) the categories derived in step one, and valued in the second, are universalized as how things are. This third step naturalizes the modern fact: it reverses the ordering of step (1) through the dazzling formalism of step (2), and the collected units/parts are elided as an instantiation of a specified whole. An order of specific interests is thereby rendered as a natural order.[6] The achievement of valuing – very often

through practices of numbering – attests the self-evident given-ness of the category valued. This dissembling step solidifies a partial order (in both senses of the term) as the given nature of 'nature' or 'society'. My use of the term enumerated entity (rather than merely number) is a way of insisting on the importance of locating number in relation to this work, of acknowledging numbers as *lively* semiotic-material actants in this three-step dance.

How they do this – how numbers as indices of a partial order become lively measurements of value that can then be put to work to produce a naturalized order – becomes important if we are to develop insights about the modern fact in a governmentality that has cut loose from epistemic practices by instituting market mechanisms at the core of governance. And to make this possible I need to make brief reference to the work of C.S. Peirce on signs[7] since it offers a typology that classifies semiotic affordances of signs as symbols, indexes or icons. These three types of sign are distinguished by Peirce in terms of how they are organized in the central unit of his investigation: the triad of sign-object-interpretant. It is this triad that Peirce understands as central to the empirical undertaking required to develop a normative scientific method.

A 'sign' might be the graphic numeral in a table of results, a spoken number name, or a set of coordinates in a line graph. The 'interpretant' is the material practices of constituting the 'reader of the sign' and the rationalities in which reading is possible and hence the meanings that might be made. The 'object', or more precisely the sets of material routines (such as the flowing of the river, or the floating away of logs) in which the object 'does itself', may be human or non-human, living or non-living. All three modes are deeply implicated in the others and something that acts as 'sign' in one situation might act as 'object' in another, or what is 'object' here can become 'interpretant' there. For those of us who wish to use Peirce's semiotics instrumentally, this triad effects a continuum and provides a basis from which to consider the participation of enumerated entities in assemblage. As noted above, it is the way this triad, or the way in which three-way relations are variously brought together, that allows Peirce to distinguish between icons, indices and symbols, with different strengths of linkage in relation to 'sign', 'object' and 'interpretant'. Crucially, it is indices where the relations between 'sign', 'object' and 'interpretant' within which the entity is constituted are open and available for reworking. It is thus in the indexical zone that the three-step epistemic dance of 'modern facts' is most easily undone.

From symbol to icon

So, now having put this conceptual apparatus of enumerated entities in place, let me start again with the first episode. Here we saw things proceeding in the expectation that natural sciences studying the various aspects of rivers – the waters and their flows, the physical and biological properties of river beds and banks and so on – would enable and justify the policy of (re)naturalizing the

river reach. The plan to spend $1.7 million rehabilitating the Snowy at Orbost began with science, or more particularly with a theory about rehabilitating rivers that exists as a scientific literature. Some of the texts making up that literature contain numbers that represent or value a 'universal river' in terms of established facts. As universal values these numbers, which epistemically attest theories, denote: that is, they are symbols in Peirce's terms.

Embedded within theory, symbolizing numbers played a role in generating a river naturalization policy, along with political intuition and environmental ideology. But science and the enumerated entities that will be generated in its name also have a specific role in implementing the policy. There, however, semiotically at least, they are different to the numbers working as symbols in theory. Implementing policy involves indexicalizing the symbolic values of theory, and what in theory is purely values, will, in indexes, become evident as a tension, that is, indexicality is the site of the tension or liveliness of measures and values. It is this tension – the source of the liveliness of enumerated entities – I suggest, that is lost in the second case.

In the first episode – bringing river-flow to life as a specific matter of concern – values are put to work indexically: policy, engineering works, river, and measures and values, and the experimenter, the muddy hydraulic engineer (no longer the removed judging observer of theory), are ineluctably linked. And for policy and river, government and index to continue into the future, work must continually be put in. This is the work that keeps indexes alive, the work of particularizing (the order established in step 1 of the 3-step dance) and generalizing (the valuing of step 2), which is never simply given but must be reproduced. Particularizing and generalizing guide implementation and justify the assiduously attended workings of the elaborate laboratory field site in which they come to life. In the zone of indexicality they are organically co-constituting; you cannot have one without the other and changes to one side are inevitably expressed, sometimes in unexpected ways, in the other.[8]

Indeed, what the example of the Snowy River suggests is that the (re)indexicalizing of the symbolizing numbers of theory during policy implementation provides an opportunity for the partiality of the ordering that has been made invisible in theory to be made evident. What we saw in the first episode is that in the collective action of the policy experiment, the partial order of the working indexes was resisted.[9] The epistemic dissembling of such modern facts (effecting the categories of the 'natural' and hiding that accomplishment) in the first episode failed to achieve river rehabilitation, as powerful interests disturbed their performance so as to prevent the re-naturalizing of rivers from being realized.

The 'empire of expertise' in which the epistemic dissembling of the modern facts could be kept intact, and the partiality of their ordering hidden, had broken down. The institutions created as part of the process of establishing government by commission did not warrant the indexes that formerly were so carefully maintained. As the passage between the symbols of theory and the indexes of doing policy work occurred, the partiality of the ordering involved became evident as

an order that favoured environmental scientists and not farmers. Coincidentally, the work of maintaining indexes with incessant actual messy ordering work, which necessitated the government retaining the services of scientists on a permanent basis, became evident as a government 'cost centre'.

Consider, then, what happened in the second episode, with particular attention to the zone of indexicality.[10] Nine or ten consultants retained by a large international consulting firm were occupied in various ways. Some tested the flows of water in a river-reach modelled in a huge sandbox, others consulted with various community groups in Orbost – the pensioners, school children, anglers clubs, the local land-care group, and so on – arranging for visits to the lab where the sandbox was located and for discussions of the issues, and explanations of the processes involved in these information-gathering exercises. After months of such activity many meetings are held and a further series of sandbox trials and meetings with individuals and groups takes place. Many sets of values concerning the likely responses of the river under varying conditions, and likely responses of this group of Orbostians to those river responses are generated.

Compared to the index of river behaviour as measures of river flow that the river scientists were prevented from assembling just a few years earlier, a far more complicated and demanding set of indexes is assembled here, indexes to the multiplicity of the people-place of Orbost and its river-reach. But, crucially, these indexes themselves have zero temporal extension; they are not lively. In generating a product to hand over to the purchaser – the government – the many accumulated indexes become a whole (proprietary) design that cannot sustain the future life of the indexes of which it comprises. What began as indexes growing from a particular (interested) reading of Orbost and its river-reach (the diagnostic intervention), becomes a solidified value icon – a design for 'a river-rehabilitating and community building intervention' – that is handed over to government.

In this product the enumerated entities whose ephemeral life indexed the collective life of Orbost and its river-reach, become not symbols (whose continuing relation to their past and to future rivers is sustained in the capacity of numbers as symbols to be put to work in law-like, naturalized ways) but an icon. The dissembling 3-step is now different. No longer will it contribute to the sustenance of the (universal) categories of a found natural world as a set of values. Instead, enumerated entities in the second episode are rendered recognizable in terms of resemblance, that is, as promoting an interested socio-political order of a people-place: Orbost as a community of stakeholders whose interests may or may not be served by the partial order the consultants' design promotes. And yet, despite its qualities of 'resemblance', supported by techniques of 'transparency' and 'risk management', this recognizable partiality is rendered irretrievable when the consultants' product is handed over to the government. There, those indexes that had ephemeral life as the consultants hurried about doing this and that, inventing categories and assembling values, come to be visible as icons, but in this glare of visibility, the enumerated entities are rendered lifeless.

Juxtaposing these two episodes, only one of which came to fruition, thus foregrounds the changing relations between knowledge and policy in 21st-century Australia. Had the first version of the river rehabilitation trial proceeded as expected, and measures and values been collected, the measures and values would have reported on the river. Embedded in existing knowledge practices produced elsewhere, these measures and values would have simultaneously contributed to a justification of a (re)naturalizing rivers policy, and the environmental theory on which it was based. In the second episode, however, measures and values were created *in situ* to generate a design to hand over to government, a proposed set of collective acts. In the privatized work of natural and social sciences, the ordering categories were rendered internal to proprietary design. In developing the design, we can imagine a group of consultants getting their feet wet in the river and having their patience tested by uncooperative community members. But when handed over to government officers at the end of the contract, the mess of the world, mud and non-compliant citizens, retreats. A design of a projected intervention that would resemble a newly ordered 'community' with various 'stakeholders', and in which the effectiveness and financial probity of the intervention were to be monitored, was what was bought and sold.

Indeed, the Orbost and its river-reach indexed in the product received by the government might no longer exist by the time the work has been completed and all the measures and values are neatly in their tables and graphs and the words assembled in reports. The product has already largely been paid for in an agreed schedule of payments, and was given no warranty by the company that produced it. When governments buy measures and values in generating evidence-based policy it is the customer – the government (not 'nature') – that provides warranty and guarantee. In the work of generating values on which design of a policy intervention might be based, enumerated entities do work indexically, but these indexes are not kept alive with respect to a theoretically informed policy. What the government buys is a customized intervention designed to be carried out by a firm of consultants.

It is evident to anyone who cares enough to examine the documents that policy expresses interested knowledge. At the beginning of the second episode 'Orbost and its river-reach' are a 'failing-people-place', a cost centre for the 'firm' that is the state, yet the design of the rehabilitation policy as a project, an intervention (a one-off, time-limited generation of indexical values that are tested for their capacity to resemble a place that is not yet but is designed to come into existence), will seek to ensure that 'Orbost and its river-reach' will stop being a 'cost centre' and may even become a 'centre of production'. In other words, where we may have thought there was only class politics and the (mis)use of government resources we now see how an ontological politics was also generated, resulting in a privileging of the practices effecting a 'productive' river over those that do a 'natural(ized)' river.

But my analysis has suggested that this is not all, or not only, what is at stake. Certainly, just as in the previous era of governmentality epistemic prac-

tices effected a singular order, so too do they in this newly instituted era. But in the new era this effecting of unimpeachability in design practices is located in the private sector rather than in a government constituted sanctuary for experts, whose knowledge is organized with the aim of keeping indices alive, by supporting their conversion into symbols. On becoming (government) property the enumerated entities not only lose their status as indexical and become instead icons, but cannot be reconstituted – brought to life again – as indexes. What I am suggesting, then, is that the iconicity effected in the practices of designing interventions achieves the solidification of an order, which is neither and both natural and social.

The policy-making that is at the heart of both episodes is environmental policy making. At first glance this seems to involve the natural sciences only. And in the first era that is a correct assessment: measures and values there would indeed report on the natural properties of the river and its environs. In the second era the constitution of the policy product offered for sale to the government certainly involved collecting values by interrogating a natural entity albeit indirectly via a model. But the crucial aspect of the product was the creative integration of the social and the natural. The bid that made the most of that element won the contract. Rather than natural or social sciences, the salient divisions in the second era are between the work of the natural and social sciences and the work that incorporates the information they both produce into a seemly and viable prototype policy design. The collective action that attends to the public problem of the Snowy River at Orbost dissolves the division between social and natural sciences in a form of government that shapes a particular community, or perhaps several, in a particular place.

In this second episode – evoking the newly hatched era of evidence-based market-mechanisms policy – the measures devised had two rather distinct elements: river flow rate data and data on how various resident groups and individuals feel about, and respond to, projected futures for their town and its river-reach. Both elements participate not only in entrepreneurial social and natural science in constituting a product to be sold to government, that is, a prototype policy design, but also, as part of that product they participate in project design of an intervention that will incorporate systematic measures of performance and financial probity. As such, in the second episode, we witness not only (to paraphrase Foucault once more) a change in the nature that 'runs under, through, and in the exercise of governmentality', but also how this change – and the move from the natural(ized) to the productive that it entails – sees measures and values working, not to create certainty about entities, but to produce entities whose intensive characteristics are the subject of design. As such they are inherently variable, and this variability of design is what makes them such able participants in the generation of new forms of wealth, at the same time that their liveliness is curtailed. In short, from first to second episodes we witness a shift in the involvement of enumerated entities in mechanisms of discipline to those of control.

Conclusion

In this paper I set out with the intention of taking seriously Deleuze's exhortation to develop familiarity with the socio-technical workings of the means by which compliance is elicited in the newly hatched era of control governmentality. I examined changes in the intensive properties of enumerated entities as policy eras moved from instituting policy based on knowledge of the natural world to instituting policy through design of interventions. In a discussion of two instances of policy intervention I showed that there was a move from a policy in which the use of indexes that is obscured in a rubric of 'natural', to one in which the partiality of the ordering implied by indices is revealed. But I also showed that in the new era enumerated entities do not come to symbolize, but instead are icons; as such, they do not sustain the indexes from which they are produced. There is no longer the elaborate fiction that the knowledge embedded in policy is neutral – an impartial representation of reality.

The question posed by this analysis of the Snowy River is whether we should be calling for a return to a governmentality that secures collective social life through a use of indices, that, while adjudicated by experts, nonetheless requires epistemic dissembling around the making and valuing of an order of 'nature'. Or should we try to make the best of a new governmentality in which design practices constitute facts as icons that dissemble around the making and valuing of an order of politics? Perhaps – in the emerging control society – we have no choice but to engage in the zone of indexicality, wittingly negotiating with and through other participants in that zone.

Notes

1 'Governmentality' is an awkward neologism deriving from Foucault's thinking about security, territory, and population in the late 1970s (Foucault, 2000). It imagines government as an ever-changing set of *practices*. I am following Miller and Rose (2008) in using a loose notion of the term governmentality, implying intersecting practices of 'doing knowledge' or 'rationalities', and the bewildering varieties of instruments devised in acting upon knowledge generated so as to transform it (Miller and Rose, 2008: 15).

2 Professor Sam Lake, quoted in *The Age*, 26 April 2003, p. 5.

3 http://www.snowyriveralliance.com.au

4 New Public Administration (NPA) swept through Australian governments in the 1990s. See http://www.apsc.gov.au/about/exppsreform2.htm

5 'Lower Snowy River Rehabilitation Trial, Consultancy Brief for Design and Evaluation of In-stream Structures', Department of Sustainability and Environment, Tender No. 103111, 15 March 2003, p. 3.

6 Hacking describes this peculiar three-step epistemic dance of modern facts in allegorical style: 'First there was this human thing, the making of representations. Then there was the judging of representations as real or unreal, true or false, faithful or unfaithful. Finally comes the world, not first, but second, third, or fourth' (Hacking, 1983: 196). Translating Hacking's terms to describe the generation of enumerated entities I identify these three steps: (1) 'the making of representations': the creation of a particular set of categories in an ordering step; (2) 'the judging of representations as real/true/faithful': the de facto defining of a unit of the property the cate-

gory creates; (3) 'Finally comes the world': being valued through the unitified category we get a single (valued) world. See Verran (2001: 166–169) for an empirical description of this three-step generation of enumerated entities in English language use and in Yoruba language use.

Law suggests that the problem is what I identify as the third step, which he labels 'reductionist reversal'. 'The predominant Euro-American mode . . . ends by authorizing a singular mode of out-thereness . . . [W]e should undo the reductionist reversal . . . nature should no longer be seen as the unique author of a single account but something that is produced along with social and cultural arrangements' (Law, 2004: 122). But giving up the third step is easier said than done.

7 See Hoopes (1991: 239) for a summary.

8 Crucial although they are in this form of governmentality, indexes are very risky things to have embedded at the core of doing policy, especially when there are no longer institutional mechanisms to tend them. Things to do with the here and now, or to do with the index are always floating off in one way or another, leaving policy, implementation, and evaluation in a shambles. Look at the recent bushfires in Victoria. The index at the centre of bush-fire policy, which had been carefully constituted not too long ago, was fatally exceeded by fire on 9 February 2009 leaving in its wake Australia's worst peacetime disaster.

9 And powerful landowners are able to make use of this indexical tension to prevent a river being re-ordered if they perceive it as not in their interest.

10 This section is imagined on some slender information I was given by the government communications officer. My hope in attending the tender bids hearing was that this would be the first stage in doing an ethnographic study of the rehabilitation policy experiment that the government was purchasing. For a number of reasons that turned out to be impossible. Large international consultancy firms are not much interested in having academics following their consultants around.

References

Deleuze, G., (1995), *Negotiations 1972–1990*, trans. M. Joughin, New York: Columbia University Press.

Foucault, M., (2000), 'Governmentality', in J.D. Faubion (ed.), *Power: Essential Works of Foucault 1954–1984*, Volume 3, London: Penguin Books.

Foucault, M., (2008), *The Birth of Biopolitics: Lectures at the Collège de France 1978–1979*, ed. Michel Senellart, New York: Palgrave Macmillan.

Hacking, I., (1983), *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science*, Cambridge: Cambridge University Press.

Hoopes, J. (ed.), (1991), *Peirce on Signs: Writings on Semiotic by Charles Sanders Peirce*, Chapel Hill, NC: University of North Carolina Press.

Law, J., (2004), *After Method: Mess in Social Science Research*, London: Routledge.

Miller, P. and Rose, N., (2008), *Governing the Present: Administering Economic, Social, and Personal Life*, Cambridge: Polity Press.

Poovey, M., (1998), *A History of the Modern Fact: Problems in Knowledge in the Sciences of Wealth and Society*, Chicago: Chicago University Press.

Verran, H., (2001), *Science and an African Logic*, Chicago: Chicago University Press.

Verran, H., (2009), 'Natural Resource Management's Nature and its Politics', *Communication, Politics and Culture*, 42(1): 3–18.

