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# The Embedded Temporality of Tools for Managing the Future

A strong focus in political and policy circles on ‘managing’ the future – most visible during the latter half of last century in tools and techniques of central and strategic planning – was itself the outcome of an explosion of interest, dating from the beginning of that century, in the idea of establishing a *science of administration*. This idea was in turn related to the burgeoning throughout the 19th century of the social sciences, and of ‘governmentality’ in general (Wallerstein, 1991; Dean, 1999). In the early 1900s, Charles Merriam, a political scientist who later headed the United States National

Resources Planning Board, coined a term which is emblematic of this whole development. The proper object of politics, he wrote, was no longer ‘the art of the traditional’ but ‘the science of constructive social control’ (quoted in Marini, 2001, 29).

At least until very recently, the resulting confidence about the ability to control the future persisted, despite the decidedly mixed success of government-led initiatives. During the same period, however, perceptions in non-governmental domains, beginning in philosophy and the natural sciences, had come increasingly to stress the unpredictability and contingency of future events and to express scepticism about the possibility of managing them. In fact, such ‘post-Newtonian’ perceptions can be said to have *preceded* the turn to intensive planning I have been referring to (e.g. William James, Bergson, the later Whitehead, and Heidegger in philosophy;

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Heisenberg in physics), although it is only in the last decade or so that they have come to be more widely influential in policy circles through the importation from the natural sciences of theories associated with 'complexity' and 'emergence' (e.g. Morcol, 2002) and a corresponding increase of interest in matters of process, timing and timeliness.

An important and largely unexplored question raised by these developments concerns the embedded capacities or entailments of the tools used by government to intervene in and attempt to manage the future. Specifically for my purposes, what presuppositions (no doubt largely unconscious) about 'time' are implied in or built into the design and functioning of these instruments and techniques? And further, what can consideration of this embedded temporality in relation to a contemporary privileging of dynamic complexity tell us about how effective the tools are likely to be? In the context of New Zealand history of the last 50 years (a context not dissimilar to that of other Western countries), such tools – broadly conceived to include techniques of social mediation – prominently, and to a certain extent chronologically, include (1) the use of national conferences to enlist expertise and secure consensus over future direction; (2) the use of computer-simulated economic modelling and forecasting; (3) the application of 'free-market' theories to economic and social management; and (4) the techniques of scenario construction.

My aim in this short article, drawing on my recently published book *Governing the Future* (Common Ground, 2011), is to illustrate the theme of embedded temporality just referred to by considering in turn, and to some extent evaluating, each of the exemplary tools and procedures listed above. Each, it can be noted, while continuing to have possible application today, is also paradigmatic of a particular period (its heyday, as it were) within the time span addressed here. It might even be argued in some cases that a tool was – in part – a response to the perceived shortcomings of a previous paradigm; but in suggesting this I do not mean to suggest that the tools have a similar scale or scope. It is rather that

each might be regarded as a reflection of an emphasis or understanding having particular resonance at a certain date. Moreover, they have in common the fact that they have all been recruited for the purpose of providing access to the 'big picture'.

I also need to make clear at the outset that I do not believe I am succumbing

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to a technological determinism whereby human activity is held to be wholly dictated by the capacities of available tools. Yet nor do I want to revert to an opposing instrumentalist view of seeing tools as neutral and freely adaptable aids to human rationality. The more nuanced approach I am taking here is summed up by Andrew Feenberg when he writes: 'What human beings are and will become is decided in the shape of our tools *no less than* in the actions of statesmen and political movements. The design of technology is thus an ontological decision fraught with political consequences' (1991, 3; italics added). I also wish to leave room for an understanding of the completely pervasive and unavoidable inter-implication of humans and technology, broadly conceived, as distinct from the 'take it or leave it' attitudes towards technology that remain characteristic of much thinking today. A brilliant exposition of the complex issues involved in this 'co-constitution' of technology and the human, with particular reference to language and contemporary digital media, can be found in Frabetti (2011).

### Conditions of compatibility

Given a world resembling contemporary accounts of complexity and emergence, what should an effective future-management tool (if such is possible) be able to take account of? This is a world which, according to Ilya Prigogine (2001), moves very far from equilibrium as a result of the unpredictability of the movement of matter. It is a world which is forever in a process of becoming rather than a world of merely aggregative change from a stable or mature base. When we expand this conceptualisation from the physical sciences to include the human social world, we are faced with a 'spatio-temporal structure' (Prigogine's term), in which human action arises out of a *horizon of expectation* in interaction with a *space of experience* – the terms are Reinhart Koselleck's (in Ricoeur, 1994, 10-15). In other words, our temporal orientation is inseparable from the ever-shifting social, physical and psychological *arrangements* in space (of bodies, objects, emotions, thoughts) that we remember, perceive and, not least, imagine.

Very briefly, then, a tool that was equal to socio-environmental complexity would have to expect the unexpected. It would have to be able to take account of human goals and anticipations, not just known (or typical) actions. It would need to take account of developmental dynamics and processes, but resist the temptation to the teleological. It would need to make room for the broadest possible contextualisation of events and actions.

### Conferencing

The value accorded to conferencing is grounded above all in the desire to allow, in spatio-temporal terms, the more or less simultaneous laying out of all the relevant viewpoints, with the hope that such airing will lead to rational discussion and eventual consensus. It is based on the assumption that, in Habermas's words, 'the parties are oriented towards agreement and *not just* towards their own respective success' (Habermas, 1983, 173, emphasis added). In historical terms, it is a technique particularly suited to the 'corporate' administration of the economy that was popular in many capitalist countries in the 1960s, in which it is assumed that society

can be fully represented by capital, labour and government, but which also bears similarity, as Bevir (2006) points out, to contemporary 'system governance'.

In the New Zealand post-war context, this recipe for achieving consensus was inaugurated by the Industrial Development Conference, organised by the Department of Industries and Commerce and held in June 1960. Very briefly, its purpose was to establish an agreed direction for diversifying the New Zealand economy away from its dependence on primary agricultural products (wool, butter, meat carcasses, etc.). The conference opened with plenary addresses from the prime minister, Walter Nash, the head of the Department of Industries and Commerce, W.B. Sutch, and the farmers' official representative, W.P. O'Shea. The gesture of inclusion towards the farmers, as the dominant force in economic production, backfired. O'Shea used his centre-stage opportunity to tell the exact opposite story to the one the government was trying to have heard: he claimed that if the farmers were only given enough resources, they could solve New Zealand's economic problems all by themselves – i.e. by producing more of the same – for as long as anyone present was likely to be interested in the matter.

The conference proceedings (Department of Industries and Commerce, 1960) do not provide any certain evidence that these contradictions were exposed and explicitly discussed. Hence, although the conference concluded on a consensual note, it illustrated the Achilles' heel of the technique: there is not much it can do if the primary objective of one or more of the participants is, contrary to the condition identified by Habermas, to express and defend its own interests. This is a common pattern with representational conferences predicated on faith in rational communication: what is expressed assertively is received politely, rather than with agonistic critique or concerted debate, and the result is typically an unchallenged disjunction of perspectives. The original problem the conference has been called to address is temporarily covered over by the bonhomie with which such events conventionally conclude, only to resurface later.

Another notable feature of conferencing in general – one that continues to be particularly familiar in an academic context – is the division of the given time into, on the one hand, plenary sessions that all can attend, and on the other, parallel sessions that participants must choose between. The variation on this idea in the political context of the 1960 conference was the establishment of a committee structure whereby the main business of the conference was allocated to independent groups working simultaneously on their allocated areas of responsibility. One group was charged

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with exploring and reporting on external influences on the New Zealand economy, while another addressed internal considerations; one group focused on natural resources in isolation from another discussing human resources.

The divisions imposed by this process are sufficiently suspect as to have rendered the proceedings problematic in advance. The main assumption informing this method of operating is that these are autonomous tasks that can be allocated simultaneously to separate – but implicitly homogeneous – groups and the results subsequently collated without the need for considering how the different and deviating dynamics and discussion trajectories of the groups (the temporal aspect) might affect

the compatibility of their individual results. Within each group or domain of responsibility, discussion will stop short of discussing fully what would be better treated as a set of interrelations (the spatial aspect). (This still happens today in problem-oriented conferencing through the habit of instigating break-out groups; the technique can work if the subsequent reporting back and discussion is extensive, but all too often it isn't.) The image this practice brings to mind – a machine taken apart, worked on, and then put together again without any loss – is entirely consistent, of course, with the Newtonian engineering ethos (technical, rational, instrumental) that went virtually unquestioned in the 1960s and remains not unusual today.

What a dynamic temporal perspective allows us to see is that the problem with consensus-building as it was and sometimes still is envisaged, and as it was typically enacted in and encouraged by the conference technique of full representation of competing interests, is not the pursuit of consensus *per se* (that is crucially necessary work in social formation and maintenance), but rather the tendency to see national unity or full representation (and hence coordination) as something that can or should be achievable *all at once*. This is arguably too static and overly utopian an expectation, particularly in contemporary multicultural societies. National unity and consensus is achievable, but not when – as is conventionally the case – it is conceptualised in exclusively socio-structural or spatial (i.e., a-temporal) terms. In a view based on a strongly contingent emergence, the best that can be aimed for realistically is an *historical* unity; one which is registered only in the continuing existence of a given nation despite the periodic rifts and clashes that threaten it, and which requires ceaseless maintenance work on the part of government in order to settle temporarily the grievances that the maintenance process imposes cyclically on one group after another.

This is not to suggest ruling out conferencing as a decision-enabling procedure, but to recognise the over-privileging of immediacy and inclusivity

that the technique can encourage. Conferencing, to be effective now, would arguably also need to be employed much more regularly than it has been in New Zealand since its heyday in the 1960s, so that an appropriate model can be progressively built.

#### **Economic modelling**

The National Development Council system, established in the late 1960s, was the product of a further national conferencing exercise. The council and its satellite sectoral committees (again recalling a Newtonian mechanical universe) provided the institutional arrangements for gathering data from all sectors of the economy and setting targets for future output. A vital tool for the management of this process was the computerised model of the economy, a tool which, over the years, has been subjected to the kind of critique and refinement that resonates with, but can be further illuminated by, an analysis of embedded temporality.

Bryan Philpott became the leading New Zealand exponent of econometric modelling, beginning his work at Lincoln University in Canterbury, before moving to Victoria University of Wellington. Here is a brief account of his project, as described later by the Task Force on Social and Economic Planning in its report, *New Zealand at the Turning Point*:

to produce an economic model which could be used to assess where the economy was heading on current trends, what it could feasibly or optimally achieve and what were the policy implications of the optimum blueprint. The model attempted to take account of the complex interdependencies among different sectors of the economy, and alternative assumptions that could be made about important factors in development such as the terms of trade, likely trends in productivity, ratio of savings to national income and the like. (Task Force on Social and Economic Planning, 1976, 12)

It must be acknowledged immediately that, while the description states that the model is based on extrapolation of current trends, an important qualification

appears nevertheless to be implicit in the wording: it is not necessarily assumed that current trends will continue, merely that a certain outcome can be predicted if they do. And yet, even with this qualification there remained, at the time, confidence in the ability of research to separate out and establish the causes of the various dynamics, as well as to quantify the sequential logic of their combination. To this extent, and to the extent that the complexities of human response are absent from the model, the work does not depart from the reductionism of mechanistic Newtonian science. In other words, while

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such models (i.e. as were operative in the 1970s) can perform complex calculations, they are still essentially 'additive' or 'linear': the results are derived entirely from – or reducible to – the combination of the numerical components fed into the model by the analyst or forecaster. By contrast, in a non-reductive account – one informed by complexity or emergence theory, for example – the modeler would have to take into account that the results are not simply cumulative, but that any variation or deviation in the values given to the individual elements will, in combination, ramify unpredictably throughout the whole. In the modellers' own terms, it is the problem – never fully solved – of allowing for what came to be known, following criticism of the extrapolation basis of the earlier models, as 'cointegrated variables'.

In Philpott's (1971, 11) terms, considered in relation to the spatio-temporal foundations of emergence theory (Prigogine, 2001), this representational and extrapolating technology is, as he himself put it, 'coherent-rational': that is, it fits logically together (space) while obeying a logical sequence of operations (time). The difficulty with it stems from the presumption that the temporality of the economy can be accounted for by a strictly causal sequence.

#### **The market mechanism**

The faith in the ability of the state to determine, by comprehensive planning, a bountiful future, a faith that prevailed amongst societies of every ideological stripe in the 1950s and 60s, came to be contested by the undercurrent of 'free market' or 'neo-liberal' ideology that gradually rose to prominence in Western countries in the late 1970s and 80s. The failures of modelling in the early 1970s in the wake of major economic turbulence undoubtedly contributed in some part to this development. There can be no doubt that if it worked according to theory, the market would be the instrument of dynamic temporal management *par excellence*. In its radical form, the idea was that if the autonomous individual, who is supposedly possessed of full information – or at least the same information as every other functional individual – makes rational choices based on long-term self-interest, the resulting aggregated decisions of supply and demand would be the best possible outcome for everybody. This market situation, constantly evolving according to unpredictable new combinations and interactions, is 'free' in the sense of being *open to change* – in the last analysis 'emergent', i.e., undeterminable by external forces alone. In practice, of course, as has been well documented, the results are destructive for a good many of the human participants, as well as for the environment, perhaps because, as William Connolly (2011, 37) points out, the market cannot operate in isolation from potentially destabilising interactions with innumerable other systems or fields of force. The market cannot embrace, much as its advocates would like it to, the totality and variability of human



activity, including its inconsistency and irrationality.

It is popularly believed that the New Zealand Treasury adopted this free market conception as part of its 'reform' of the economy in the 1980s. A fierce critic of neo-liberalism, Jane Kelsey, in *Reclaiming the Future*, provides a typical expression of the charge:

The 'fundamentals' of the New Zealand Experiment – a deregulated labour market, a minimalist government, a strict monetarist policy, the liberalisation of trade, investment and markets, and fiscal restraint – comprise an ideologically coherent package that is premised on *unfettered* market forces and a limited state. (Kelsey, 1999, 29; emphasis added)

However, I would argue that the Treasury did not embrace the free market to the extent commonly believed. Although clearly wary of planning, the Treasury appears to have conceived of *intervention* as an essential aspect of a market-based future-management tool that governments have at their disposal. Here is the Treasury 'market' view, from *Economic Management*, briefing for the newly-elected Labour government of 1984:

The most obvious body to fulfill the role of 'setting the rules of the game' and ensuring that they are followed is the Government. In a sense, then, all markets can be thought of as having a label attached reading 'made by Government'. Viewed in this way, it does not make sense to treat 'free' markets as being at one end of a continuum which ranges from no government involvement to complete government control. Since a decision not to interfere with the operation of an existing market is then equivalent to allowing a given set of interventions to stand, it is more useful to consider the question 'what set of interventions is most appropriate?' than to attempt to answer those of the form 'should the Government intervene?' In any particular intervention decision, therefore, the extent to which market forces are utilised is a matter related

primarily to the process by which an objective may be achieved rather than an objective in itself. (New Zealand Treasury, 1984, 296)

This prescription strikes me as more consistent with what government did in the 1980s than was popularly believed at the time. Arguably, it shows a degree of sensitivity to what is required of political institutions and practices if the objective is to sustain a market system in the face of an unpredictable future and volatile human response; and as such is consistent with emergence theory, which, when

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translated to the realm of human action, suggests a policy of minimal guidance, of seeding and strategic nudging which will vary in intensity according to the demands of the moment ('what set of interventions is most appropriate'). If the word 'appropriate' in relation to market intervention means we can understand governments to be endorsing a policy of timely and short-term adjustments, then there is a clear resonance with descriptions of emergent or complex adaptive systems such as that provided by Stacey (1996, 87): 'because complex adaptive systems are the product of their precise history, and because it takes time for small

changes to escalate in such systems, their short-term behavior is predictable'. That said, it should also be noted that this interpretation of temporality-informed market action still leaves ample room for criticism of what the Treasury judged to be an 'appropriate' level of intervention during the period in question.

#### Scenario construction

In the process labelled 'foresight', popular with many governments in the 1990s, and in part a response to recent market failures, we have the potential for a radical departure from previous attempts to manage the future, and one which no doubt was connected also to the contemporaneous ideas of 'reinventing government' and renewing the 'purposive state' (Spicer, 2004). Instead of analysing trends or setting targets based largely on extrapolation from the present, or even, as in the case of the Treasury, correcting divergences from an established or preferred setting – a practice which arguably still assumes an overly linear understanding of change – we have in foresight the idea of envisioning a possible desirable state of things and then developing a strategy for achieving it (sometimes referred to as 'backcasting', as distinct from forecasting). Or, alternatively, we have the notion of positing a range of equally plausible futures out of which particular possibilities can be aimed at, encouraged, resisted or prepared for. In either case there is an assumption that the present, while it may not be fully understandable, is open and malleable to a degree that at least potentially outweighs those aspects which are determining.

The key point of interest for continuing innovation in foresight-related planning, and for research on temporality in government, arising from New Zealand's experience at that time was the development and publicising of a set of contrasting 'national scenarios' of a possible future. In socio-temporal terms, the use of alternative scenarios suggests acceptance of a more open future than was apparent in earlier initiatives, and, moreover, potentially signifies a decisive break from the dubious temporal ideology of economic development, i.e., from development understood teleologically as

either a logical destination or a progressive fulfilment. Unfortunately, the national scenarios produced by the Ministry of Research, Science and Technology (1997) during the early stages of what came to be known as the Foresight Project were rather too technically undeveloped to live up to the promise of the idea. However, I want to reflect more closely on whether scenario construction as a tool for managing the future *could* in principle be compatible with a temporal outlook consistent with complexity and emergence.

There is a fair degree of consensus in the literature on scenarios (e.g., Fahey and Randall, 1998; Staley, 2002; see also Bishop et al., 2007 for a comprehensive comparative survey) as to the main characteristics of a good set of scenarios:

1. All alternative futures represented in a set of scenarios must be plausible while at the same time clearly contrasting with each other. None should be wholly good or wholly bad. All should include attractive elements and be presented positively, which means, most importantly, that they are capable of enabling genuine dialogue and exploration of future possibilities to take place around them, independently of whether any 'choice' will eventually be made.
2. A set of scenarios should not fall into an identifiable pattern of comparative likelihood or impact. As scenario-design experts Peter Schwarz and James Ogilvy (1998, 78) express it: 'beware the 'middle of the road' approach trap – that is, selecting three scenarios that offer 'large, medium, and small' versions of the future. Too often, managers will be tempted to identify one of the three – usually the middle version – as the most likely scenario. Such simplistic scenarios don't challenge the preconceptions of the decision makers; neither do they provoke managers to imagine innovative strategic options and their implications. When presented with large, medium, and small scenarios, managers have a tendency to treat the most likely scenario as a prediction, thus failing to explore the other scenarios fully.'

3. The main 'key drivers' (i.e. known environmental, institutional and cultural forces and trends, such as globalisation, population ageing, or climate change) should be invariably present – although given variable weightings – across all scenarios. The best approach is to make a small selection of those drivers whose presence is to be expected but where there is currently much uncertainty as to what their actual impact will be. Scenario-building, in line with an understanding of emergence theory, gains more value from exploring how

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the same base (or 'matrix') of drivers or conditions might play out differently according to the different intensities or combinations experimented with across a scenario set.

4. Scenarios should be realistic, in the sense of fleshed out with details. They should make good use of invented historical detail showing how the situation depicted could have come about, allowing a reader to enter into and explore the picture of the future being offered.

This matrix method of scenario formation, if carried out in accordance with the above prescription, is surely

consistent with current conceptions concerning the nature of change and how it can be influenced. Specifically, the method overtly recognises the fact that particular determinants can play out very unpredictably. It also allows the variety and variability of human perceptions and attitudinal responses to be taken into account more readily than economic modelling does. Arguably, however, scenarios produced according to the techniques described above draw too heavily and exclusively on memory, that is, on people's sense of the established forces informing the present (the 'drivers'), and not enough on alternative dreams or purposes. In this respect, an alternative and popular conception of scenarios – the free envisioning of a desirable future that I mentioned earlier – offers a possible corrective, although these typically go too far in the opposite direction, not being sufficiently anchored in the drivers. Certainly, the two approaches to scenario formation can't easily be combined (I attempt to do so in the final chapter of *Governing the Future*, but there is not the space to discuss that here). Even so, of the techniques discussed in this article, scenario construction seems clearly to be the one most suited to the understanding of temporality that I have been favouring. And therefore it is regrettable that more attention has not been paid to this technique since the Foresight Project was abandoned in 1999.

#### Conclusion

The governmental tools I have been discussing have not, of course, gone unquestioned before now. However, what I have offered in focusing sharply on embedded temporality is, I hope, a particularly relevant addition to the methods for conducting critique of policy development instruments as they emerge. I want to reiterate that the temporal commitments associated with these, or any other, techniques are not necessarily locked in or resistant to modification (as a technological determinism would have it); nevertheless, design and the expectation deriving from initial use will together establish a trajectory of application (a 'destiny', as it is sometimes evocatively said) that can easily assume

permanence if not consciously reflected upon. Nor should it be supposed that I am advocating the avoidance of any of the tools discussed above. Indeed, I would argue that governments should be bold enough to continue employing these sorts of big-picture initiatives, but that they should be used in an integrated manner (e.g. Fontela, 2000), as part of an overall strategy for thinking about and managing the future. However, the last few years have not been encouraging in this regard.

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