

HOW CAN SCENARIOS SHAPE DECISION MAKING?¹

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INTRODUCTION

I've been asked to speak about how scenarios can shape decision making. This seems to be one of the perennial problems in this adolescent field. Napier Collyns and Peter Schwartz talked about how they struggled to get the hard-nosed strategic planners at Shell in the early 1970s to take the initial scenarios seriously, as more than 'amusements' (Sharpe, 2007: 21-22). Perhaps this struggle, not uncommon in young fields, was the beginning of persistent attempts over the years by scenarists to justify their existence, demonstrate the usefulness of their craft (or science?) and defend it against skeptics.

I am a systems thinker. I tend to view things from the outside in, exploring how context shapes behavior, action and decision making. Clearly, internal organizational dynamics, including culture, shapes decision making but the context is vital. But because I am anchored in the discipline of management, my comments will draw largely from that tradition. Scenarios appear to be inherently systemic because they pay attention to the context of the thing in focus, and try to distinguish between the 'pre-determined' and the real, actionable uncertainties in that context. Therefore scenarios invoke the *construction* of system and environment, which I will discuss.

I am also a social ecologist. I tend to view organizations as elements in wider ecologies of interacting organizations, which themselves are enveloped in environments that have 'textures', that is, particular analyzable dynamics with an information structure (Emery & Trist, 1965; Emery, 1999). To the extent that I am a scenarist, I am a latecomer, having entered this space not yet ten years ago. I have worked with and been strongly influenced by some of the prominent thinkers of what might be called the Oxford Scenarios School, including Kees van der Heijden, Angela Wilkinson and Rafael Ramirez.

Finally, I am a resident of central Florida. This bioregion has its share of water challenges, largely driven by urban development intruding on a fragile natural landscape. Some of these challenges are: a lack of sufficient surface water, despite many lakes; over-exploitation of ground water, increasing the likelihood of sinkholes in the limestone substructure; competing uses, including agricultural, commercial, residential and recreational (this is the home of Disneyworld and other mega-attractions); contamination from residential and agricultural runoff; and a regional water regulator captured by

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powerful private interests. All of these challenges are not even to mention the tragedy of the Everglades, which has its source in the rivers and lakes of central Florida. The central Florida bioregion could benefit from some intense water scenarios work!

“Every crisis is a violation of vision.” This assertion by management scholars Silva and McGann (1995) points to why we need scenarios for decision making. The simple answer to the question of how can scenarios shape decision making is: through strategic options, that is, through the identification and development of strategic options, and then implementation of the chosen path. Kees van der Heijden (2005) might put it a bit differently: A strategic conversation leads to and helps to inform and hopefully improves strategic decision making. But of course this is a complex undertaking, involving *appreciations* of the environmental context; *sensemaking*, or interpretation of the environment and the situation; and *design*, or implementation of a ‘solution’ to improve the situation. Such an undertaking is even more complex in the multi-stakeholder contexts common in water situations than in corporate or single-organization contexts (Selsky et al., 2013), and the central Florida bioregion is a good case in point. But the path is laid before us; every crisis need not be a violation of scenario planning.

In my remarks I will focus first on the nature of the situation we are facing; here I will talk about *turbulence*. Then I will comment on how we make sense of that situation; here I will talk about *sensemaking*. Finally, given these two themes, I will raise some points regarding how we might make more effective strategic decisions and, by the way, design more effective systems; here I will talk mostly about *multi-stakeholder settings* and the use of scenarios in them.

THE NATURE OF THE SITUATION – TURBULENCE

In the world I come from, that is, the social ecology school in organization studies, turbulence is a ‘texture’ of the environment of a system. A turbulent texture is characterized by a rapid pace of change in a *field* of organizations; unexpected disruptions and volatility in that field; and unintended consequences of actions by members in that field that affect different members in possibly (and sometimes inconceivably) different ways. The disruptions experienced by systems in a turbulent environment come not from their usual stakeholders (in their ‘transactional’ environment) but from the wider context (their shared ‘contextual’ environment). All of these things increase uncertainty for decision makers trying to plan and strategize. In fact, Emery and Trist (1965), who brought the notion of environmental textures into organization studies, thought high relevant uncertainty was the definitive feature of a turbulent environment.

What makes a turbulent environment so insidious – and also appropriate for scenario work – is that forces in the contextual environment may become linked in unexpected ways. For example, in the Great Financial Crisis, reckless behavior in the subprime mortgage market in the U.S. affected the livelihoods of pensioners in rural Norway. Who could have predicted that? Water researchers should find the notion of unexpected linkages in large-scale complex systems familiar. One of my mentors, Professor Eric Trist, said that in a turbulent environment you need to reverse figure and ground, in order to be

able to examine and hopefully understand the dynamics of the environment in and of themselves. Scenario practitioners should find that to be familiar advice.

Another characteristic of a turbulent environment is that it calls for collaborative responses among the members sharing the same field, to get a handle on the turbulent forces affecting them all (Emery & Trist, 1965; Selsky et al., 2007). Such responses may be counter-intuitive if turbulence makes people and organizations hunker down and defend their patch. But breaking out of a defensive, myopic view of the situation and fostering a sense of shared destiny or fate is what scenario work is designed to do. This point becomes important later.

History, signals and drivers

History is filled with improbable events. In fact, history is punctuated or paced by improbable events – a terrorist attack on two skyscrapers in New York, the construction of a wall dividing a great Central European city, the dismantling of that wall, the assassination of an archduke in the Balkans. Were there harbingers of those events which seemed improbable when they occurred? Undoubtedly. The newspaper, the TV, the Internet are all filled with weak signals every day, every hour. Of course they are also filled with random noise, flagrant inaccuracy and shameless ‘spin.’ And therein lies the problem of weak signal detection. David Seidl (2004) reminds us that weak signals are constructed, so they are prone to those human foibles.

And here comes Big Data. In the outpouring of commentary following the recent NSA surveillance revelations, I was struck by how succinctly a letter to the editor of the *New York Times* captured the nexus of public issues around government surveillance, privacy, security and the ‘promises of information technology’:

“The broader problem is that the Internet simultaneously has anarchic and authoritarian possibilities, the former making terrorism easier than ever before, the latter making Big Brother into a reality. Between them, the possibilities that the technology offers to democracy are tenuous.

“What is needed is not only reclaiming power from overreaching government and corporations, but also rebalancing and reclaiming life from our surrender to a technology that, promises aside, is inherently engulfing” (David Keppel, New York Times, 8 June 2013).

What signals is the surveillance sending? What signals is the *revelation* of the surveillance sending? And to whom? How are these signals picked up and interpreted by different stakeholder groups? How improbable are these events which have us all in an uproar? What should we – policy makers, corporate strategists, privacy activists, ‘average’ citizens – do about them? All public issues, I assert, have these multifaceted and equivocal natures, perhaps especially ecological issues like fresh water and its management. I will draw out an implication for disruptions of power later.

If they are strong and consistent enough, signals accrete into trends. These are the driving forces in a field that strategists have to pay attention to if they want to keep up and if they are to have a chance of discerning discontinuities or disruptions of such trends, due to the improbable events I talked about earlier (Curry, 2007). So scenario analysis deals with *contextual* disruptions, not operational or

competitive ones (Selsky & McCann, 2008). In management we talk about these disruptions as environmental ‘jolts’. In a turbulent environment they can come from many sources, some completely unexpected. These are what a scenario exercise tries to capture. It is an imprecise exercise: “*Pattern recognition for discontinuities cannot be formalized*” (Tsoukas & Sheperd, 2004: 6). So what can be done to improve detection of trends and discontinuities? Scenario experts have their favorite tricks. It requires intuition, imagination and whole-systems thinking as well as analytic ability. These capabilities can be developed over time. A good recent example is Indraneel Sircar’s use of scenario analysis in the field of national and community-level emergency planning. She and her colleagues identify and create ‘episodes’ that stress-test not corporations and the quality of their strategic planning, but public institutions and the efficacy of their plans and arrangements (Sircar et al., 2013: 50).²

Adaptive capacity

In a turbulent environment the adaptive capacity of systems – whether organizations, institutions or large-scale socio-ecological systems like bioregions – concerns both agility and resilience. These are the capabilities needed to ‘master turbulence’ (McCann & Selsky, 2012). It appears that agility – the ability to move quickly in response to an opportunity or threat – can be handled well enough through standard strategic planning. But before we dismiss agility and move to the more timely capability of resilience, we must qualify that assertion with a big IF there *is* standard strategic planning, an ‘if’ that may not exist in a complex multi-stakeholder situation involving, for instance, fresh water management. I will expand on this point later.

Resilience is the capacity of a system, after a severe disruption, to bounce back to its original state or to transform to a new, effective state (ibid.). It is a needed capability for organizations today and is gaining currency in both corporate and public-policy debates because of the emergence of the ‘risk society’ (Beck, 1992). Our hyperconnected, hyper-commodified, hyper-consumerized, hyper-technologized and hyper-capitalized civilization produces a cornucopia of goods and services available ‘24/7’ but also produces unpredictable and uncontrollable risks. Climate change has been the icon, but perhaps now it is a pile of building rubble in Dhaka or a refugee camp in Jordan. Such looming problems call for us already to expand the rather new notion of large-scale resilience. Sircar (et al., 2013), in examining community and national resilience after an environmental jolt, says we need to pay attention to ‘third generation resilience’, that is, the ability to ‘bounce forward’ by evolving to new practices and even a new system state after a jolt (crisis or disaster) to a system (p52). This involves new governance models, not just new designs or operating processes. I will come back to this later.

The author Andrew Zollie has been on the speaking circuit recently talking about his book ***Resilience: Why Things Bounce Back***. He sees an increasing likelihood of failures in our world, and – and here he points to a moral angle – a need to protect people from these failures. The failures will be corporate and governmental ‘discontinuities’, or response breakdowns, in the face of systems of interacting problems (what planning scholar Russell Ackoff (1999) called *messes*). They challenge the promise and the

² Narayanan and Fahey (2004) discuss the relative merits of ‘invention’ and ‘navigation’ as mental frameworks for dealing with the future. They remind us that “[i]nvention, when successful, creates discontinuities... the future evolves through a series of disruptions that reflect distinctive breaks [and brakes?!] in apparent patterns” (p49).

optimism of the scenario method. That is, scenarios offer the promise of succeeding in the face of uncertainty. But can the weak signals of failures (discontinuities) be picked up and dealt with in time? If, or to the extent that, they *can*, scenarios offer the possibility of increasing system resilience. But there are no guarantees, just grinding analytical work coupled with imagination.

Kees van der Heijden (2005) has said that a learning dynamic is needed in a turbulent environment. The scenario method offers a way to get participants to examine a situation from outside their natural silos. When this happens it enables learning, or even better, learning to learn, where people become more capable of seeing their situation, and strategic situations generally, in a different way. I believe that such a learning dynamic is, or should be, aimed at developing agility and resilience, which are really *learning* capabilities. That is, capacities for learning how to be agile and resilient have to be instilled in systems – and in the people *in* systems – operating in a turbulent environment if they are to have any chance of succeeding, or indeed, surviving. Thus, scenario practitioners should be mindful of their role here, namely, that they need to be facilitating capacities for greater resilience as well as agility in the members of the fields they are engaged with.

I conclude this part by proposing that scenario work is appropriate, or perhaps more accurately, *most* appropriate or needed, in turbulent environments (Ramirez et al., 2008).

INTERPRETING THE SITUATION - SENSEMAKING

Scenarist Cynthia Selin (2007: 38) says that “*The world is an object composed of driving forces, certainties and uncertainties that exist despite one’s ability to perceive it.*” But she continues, “*There is no objective world outside perception, or outside interpretation. Worlds are then constructed by sensing specific things through a selection process that is informed by history, beliefs, specific contexts and mental models.*”³ This is Pierre Wack’s world, “*something to be understood both subjectively vis-à-vis maps and objectively vis-à-vis forces*” (ibid.: 39).

Scenarios function as framing and reframing devices. They help people to understand what things mean, or perhaps more accurately, to understand the different meaning that events can have. They challenge prevailing assumptions and official futures. For instance, what does it mean, or what *will* it mean, that dairy farming in a certain region has increased by 25% over five years? What will that mean for the availability and quality of the region’s fresh water? for the *management* of its fresh water resources? for the region’s sustainability (whatever *that* may mean)?

We usually think of sensemaking as retrospective – something happens and we construct a narrative about it that makes it meaningful. However, scenarios are *prospective* sensemaking devices (Wright, 2005). That is, they help managers entertain unusual or unexpected possibilities, and incorporate them into images of newly plausible futures. If managers can increase their capacities to do both of those

³ Selin believes that ‘knowing is an interpretation of the world...’ and is always partial.

things, they can probably make more effective decisions and craft more effective strategies than if they rely just on retrospective sensemaking.⁴

I have argued in a previous paper (Selsky & McCann, 2008) that managers in a turbulent environment need to shift their thinking ('sense') about how change occurs from 'episodic' (that is, normal operations get disrupted, the disruption is dealt with and things return to normal) to 'continuous' (that is, operations are continually buffeted and dealt with, and the system continues to move into different states). Doing so can help managers understand that their strategic situation is merely a part of larger fields that are emerging over time, and this can help them to craft better, more resilient and agile strategies that dovetail with those emergent states. Scenarios can be used to reflect continuous change in the contextual environment, which provokes continuous change in the transactional environment and in the system itself.

How managers make sense of contextual disruption can also affect their adaptive capacity. Do they see such disruption as an opportunity or as a threat? In a global survey that I was involved in in 2006 high performers were found to be more agile and resilient than lower performers (see McCann & Selsky, 2012). A related point is, do managers in an organization try to cope with contextual disruptions alone, or do they seek out others affected by the disruption and try to build a shared sense of the situation and find collaborative solutions? Doing so can increase the *collective* capacity to cope with shared disruptions, and is clearly relevant to fresh water issues. Angela Wilkinson commented to me recently that "there tends to be much lower recognition of the possible role of scenarios in the framing contests of policymaking." But taking an optimistic turn, she then said, "Scenarios might be a key element of the next phase of democracy - framing problematic situations, not forecasting solutions and always maintaining the framing of another or others." That is, managers can use scenarios to make sense of contextual disruptions and thereby increase collective adaptive capacity, or at least see a path toward increasing it.

How managers make sense of the future affects how they will act in the present (Selsky et al., 2013). Do they foresee a single future or multiple futures? Do they adopt a passive, fatalistic attitude toward the future, or an activist, interventionist attitude? Quite basically, are they optimistic or pessimistic about the future – or futures? How managers make sense of the future can strongly influence the decisions they make and how they make them. Scenario work can help to frame and re-frame this sensemaking, opening up possibilities for new meanings to become visible.

MAKING DECISIONS – STRATEGIZING AND DESIGNING

One of the main rules of thumb in scenario work is that the scenario set be robust – that they embrace the major future contextual uncertainties facing the system under consideration. Speed of change (high or low) is one common variable, and some important difference in customer or market preference is another. I believe it is equally important that the *decision* set that the scenario set is aimed at be robust.

⁴ See Lipshitz et al.'s (2004) 'three generic modes of situation-assessment based decision making' (p105-107).

By this I mean not only the strategic (often competitive) options available to the system, but the mode of governance of the system in its environment.

For very long we have been wed to hierarchical forms of decision making in companies, governmental bodies, charitable organizations, universities. Decisions get made at levels above where the work is done or where the impacts are experienced, sometimes many levels above it.⁵ Cooperatives and self-organizing commons are exceptions to this pattern, and ‘unorganized’ multi-stakeholder systems are left out. Such decision making arrangements have blessed us (or some of us) with an extravagant cornucopia of goods and services, but they have also got us to the edge of ecological catastrophe, and probably economic and social catastrophe as well. Arguably, such governance arrangements were appropriate for pre-turbulent times, but perhaps new forms of governance are needed for the turbulent times we live in today, with decisions worked out closer to the point of work or impact.⁶ ‘Participative,’ ‘adaptive,’ and ‘deliberative’ governance models have been discussed in the public policy literature for some time and are beginning to penetrate the organization studies literature. These new models are responding to the need for resilient governance of systems (whether corporations, ecosystems, or communities) in the face of great risks and the increasing likelihood of failures that I mentioned earlier. Perhaps the recent eruption of protests and challenges to authority in different parts of the world are harbingers of a global shift to governance modes that are more responsive to the turbulent environment.

Does scenario work have a role to play here? I believe it does because often a scenario set will assume status quo or conventional hierarchical governance of the system. Here are three brief examples:

- The first example is really a question. Do/Should scenario practitioners build in the end users in developing a scenario set, or should the scenarios simply be handed to the users for consideration? There may be a tradeoff of efficiency for learning here. Timing, time pressures and expert knowledge also come into play.
- Sircar et al. (2013) describe a method of stress-testing scenarios for community resilience by staging ‘episodes’ of disasters that challenge status quo governance arrangements – in their case, UK energy and transport infrastructures. Such a process can open up new governance possibilities.
- Scholars of the commons have demonstrated the benefits of co-management of some natural resources. For instance, the management of a local harbor, fishery or forest may be subject to negotiations between a regional or national government and a local or regional user group. Such co-managed arrangements for common-pool resources can boost robustness (see Memon & Selsky, 1998).

Using scenarios to stimulate creative governance arrangements has implications for designing systems, that is, implementing arrangements after the strategic options have been weighed and decided. Ramirez and van der Heijden (2007) propose a technique called ‘staging interorganizational futures’, which goes beyond conventional scenario wind-tunneling to designing strategy interactively. They claim this

⁵ In social ecology this is called “Design Principle 1” (M. Emery, 1999).

⁶ In social ecology this is called “Design Principle 2” (M. Emery, 1999).

technique might truly “discover... and develop... new strategic options” that can come closer to realizing possibilities for redesigning roles in an interorganizational system.

How scenarios can shape decision making depends on the kind of client. A corporate client is likely to have different requirements for using scenarios in its strategy making from a national-level governmental body’s needs for community planning, or a special-purpose regional agency for policy input (such as for fresh water regulation), or an international industry association for industry wide planning.

The special case of multi-stakeholder situations

I call multi-stakeholder situations a special case in view of the corporate-centered history of scenario work, but they are not so special for this audience concerned with fresh water issues at global and regional levels. Multi-stakeholder situations may be focused on a ‘business ecosystem’, that is, a lead firm (called a ‘keystone’ (Iansiti & Levien, 2004) or ‘prime mover’ (Ramirez & Wallin, 2000)) and its various stakeholders. This is the model that Ramirez and van der Heijden (2007) use in their description of ‘staging interorganizational futures’. Other multi-stakeholder situations may be focused on an issue, often a *public* issue – AIDS in Africa (Wilkinson), Indian agriculture (van der Heijden, 2008), the GFC (Flowers et al., 2010); community or national resilience (Sircar et al., 2013, focused on energy and transport resilience in the UK); or global ecological resilience (Wilkinson & Mangalagiu’s (2012) assessment of the WBCSD’s Vision 2050 project). Let’s call these two kinds of multi-stakeholder situations *industry-based* and *issue-based*. The latter type are of particular relevance for this audience.

“Multi-stakeholder discussions using futures-based scenario narratives are vital to draw in important actors in order to build shared understandings of resilience, longer-term adaptation, and critical socio-technical interdependencies” (Sircar et al., 2013). This, I believe, is the nub of the challenge of multi-stakeholder situations for scenario work.

I want to briefly introduce an issue-based case, then use it to make three points about the use of scenarios in multistakeholder situations. About ten years ago I was involved in a research project on fresh water management in the Canterbury, New Zealand region. In the early 1990s this region experienced a rapid influx of dairy farming on land that had traditionally been sheep pasturage. Dairy farming is much more water intensive than previous uses of the land, and my New Zealand colleague, geographer Ali Memon, and I studied the evolving effects of the increase in the region’s dairy farming over 15 years. We identified a regional-level ‘ecology’ of *issues* and a set of *stakeholders* with national and local manifestations (see Table 1).⁷

The first point has to do with convening power. These kinds of situations get talked about in terms of forging shared appreciations and creating narratives that integrate diverse perspectives, or what Andrew Curry (2007: 363-367) calls ‘superior stories.’ These are noble aims. But what if no one is in charge, that is, what if there is no institution or powerful actor to commission a scenario exercise or

⁷ More broadly, it was an ecosystem of institutions, interest groups, coalitions, resources, values, responsibilities, goals, policies and politics – all co-evolving in fragile, dynamic accommodations with each other.

other futures method to forge shared-ness? Some actors may, of course, be more powerful than others. As we found in the NZ fresh water project, the situation often reverts to what we called ‘business as usual makes politics as usual’ (Memon & Selsky, 2004). This is a status quo situation of conventional pluralistic dynamics, often gamesmanship, between business and government interests in a democratic society, and may be considered a reference scenario. In the New Zealand case the prospects for sustainable management of the region’s fresh water resources under the status quo situation were not promising.

If one can ‘rise above’ the catfights, Machiavellian maneuvers and horse trading in such situations, one may be inclined to ask: Is there transformative potential anywhere in the social-ecological-political-cultural ecosystem? How might it be activated?

Table 1. Stakeholders and issues regarding fresh water resources in Canterbury region, New Zealand during 1991-2005

<p>Main stakeholders:</p> <ul style="list-style-type: none"> • Fonterra – huge dairy cooperative; largest company in NZ, 7% of GDP • Environment Canterbury – statutory regional water regulator • Dairy farmers, and other farmers • Environmental advocacy organizations (NGOs): Fish & Game Council; Forest & Bird Society • Maori – native people in the region, organized in tribal groupings (the largest in the region is Ngai Tahu) with crown treaty claims on fresh water resources • National ministries – Agriculture and Fish; Environment; etc. • Research institutions and other sources of professional expertise • Corporations in other sectors – e.g., Meridian Energy for hydropower <p>Main issues:</p> <ul style="list-style-type: none"> ▪ Dairy Farming: leading issue ▪ Multiparty agreement: Dairying and Clean Streams Accord (Fonterra, national government and regional councils, 2003) and its effectiveness over time ▪ Hydropower: Project Aqua (Meridian Energy hydroelectric power scheme on Waitaki River) and its mixed fortunes ▪ Irrigation: Lake Tekapo Scheme (water allocation issue: Meridian Energy vs Aoraki Water Trust court battle) ▪ Conservation: Rangitata River Water Conservation Order ▪ Planning: Environment Canterbury’s regional water plans and their deficiencies ▪ Indigenous interests: Ngai Tahu’s position <p>Source: Memon & Selsky (2004); Selsky & Memon (2009)</p>

Scenario practitioners as well as researchers may find themselves in the enviable position of ‘rising above,’ to the extent they are dispassionate observers of the situation rather than partisan players or stakeholders. From that vantage point they may then ask, could scenario work help, and if so, how? Who, that is, which stakeholder or set of stakeholders, would scenarios help to succeed? Could that stakeholder (or set) then reframe or shake up the ecology of issues in the setting, and its trajectory? And which stakeholders would or could be disadvantaged by the outcomes of a scenario exercise that generated options that got incorporated – or forced – into other stakeholders’ strategic planning?

Returning to the governance issue, we posed this question in the NZ case: how could the Canterbury fresh water system get to a state of business as UNusual makes politics as UNusual? Where would the points of transformative potential come from that might propel the situation in a sustainable direction? Based on our analysis we were not optimistic that the deadlock of the status quo could be broken, but we spun out various possibilities. Alas, this was an arms-length research project and none of the possibilities were taken up by any of the stakeholders. I believe embedding these possibilities as strategic options deriving from multi-stakeholder scenario work may have helped improve the management of fresh water resources in the region.

My second point starts with the question, does turbulence *create* multi-stakeholder settings? That is, does turbulence create fissures in the ‘social ground’ (the arrangement of players, interests and institutions) that certain players and interests seek to fill, then align themselves in certain ways, such as in coalitions or competing interests? The fresh water management case in Canterbury may be an example.

If this is so, then new modes of strategy making may be needed that create positive new value for the field as a whole. For instance, scenarios and/or other futures methods could play a big role in highlighting new ‘greenfield’ structuring and governance options for that field. Given that turbulence tends to grind away at the performance of fields, and given that the fissures that are created are usually problems (e.g., climate change, wealth inequality, food insecurity), hopefully such options would improve the future state or trajectory of the field under consideration.

Scenario work could play other roles in this new kind of strategy making. In Ramirez and van der Heijden (2007) technique of ‘staging interorganizational futures,’ which I mentioned above, a scenarios-based process sweeps in the stakeholders of a ‘prime mover’ firm, then that set of organizations – which may be as diverse as a MNC and large and small NGOs – collaborate in designing a shared future in a field that they expect to share. Returning to one of my previous points, several questions arise: Does that prime mover have convening legitimacy? What if there is no prime mover, or keystone company? Perhaps the larger issue here is again the need for a convener, or convening capability, or simply leadership in the field. Cross-sector partnerships may be an important structuring device in multi-stakeholder situations created and evolved under the lash of turbulence; Pinske and Kolk (2012) have highlighted seven such projects in regards climate change and sustainable development (see also Selsky et al., 2013).

My third point is about how to make scenario method more ‘ecosystemic,’ so that it is responsive to emerging issues that fall through the institutional cracks of an ecosystem of public issues, or an industry ecosystem. This may entail bringing new governance options to light, and/or filling in ‘missing institutions’ (Perlmutter, 1965), because issue-based multi-stakeholder situations tend to be underorganized.

For example, in the Canterbury case, one of our transformative possibilities was to shift the meaning of fresh water resources, treating them as common pool resources rather than resources subject to strict private property rules. Such a shift in meaning may open up new thinking about how to govern them more effectively – and possibly break out of ‘business as usual makes politics as usual’ syndrome. This kind of ecosystemic thinking may have implications for the governance of other kinds of scarce societal resources, from health care to internet access to transport and energy resilience. The burgeoning literature on the commons and common pool resources may be useful in this regard (see Ostrom, 1990; National Research Council, 2002; Bollier, 2002).

My final comment about using scenarios in decision making, especially in multi-stakeholder situations, has to do with the separation of scenario work and strategic planning. This is a common rule of thumb in the scenario literature. Van der Heijden (2005: 4) says that scenarios *“are not the decision calculus indicating whether or not to go ahead with a project, they are a mechanism for producing information that is relevant to the decision.”*

What are the implications of doing so in turbulent environments? Is it risky to keep them at arms length, with an indirect relation between them, when the ground is in motion, that is, when contextual factors loom larger than before, and larger than transactional factors? Perhaps scenario analysis should be incorporated more directly in strategic planning. But it is not clear how this might be done without killing the intuitive, ‘dreaming,’ craft-like character of scenario work, which gives it its value. The technique of staging interorganizational futures may hold some promise in this regard. Alternatively, if strategy were more about sensemaking capabilities than about rational decision-making capabilities (Wright, 2005), then scenarios would probably have a higher ‘natural’ profile in strategizing. Perhaps this is what strategy should be about in an uncertain, threatening, turbulent environment – more improvisational, more intuitive, more creative.

CONCLUSION

To conclude this presentation I want to comment on three emerging issues in using scenarios to shape decision making: disruptions of power; choices among futures methods; and ethical considerations in scenario work.

Power disruptions

Technological discontinuities, economic/financial disruptions and ecological threats and catastrophes are all out there in the contextual environment, ready to pounce on innocent organizations going about their business. These kinds of contextual disruptions may be situated in terms of drivers or driving forces

in a scenario planning exercise. They are different from the competitive disruptions that strategic planning is geared to cope with, or the operational fluctuations that tactical planning covers (Selsky & McCann, 2008).

But disruptions of *power* seem to have a different character. A power disruption occurs when the meaning on which an organization has based its identity, operations and performance is challenged successfully, and its status as a legitimate provider of some socially useful good or service is publicly called into question. Challenges to meaning and legitimacy do not deal with laws and regulations, but with social norms and values. So a power disruption may be caused by a shift in a social value and therefore arises in the contextual rather than transactional environment.

This is what makes power disruptions relevant to scenarios. Van Asselt (2010) has said that the future is a critical playing field of power. Companies, industries, associations, governments, NGOs all jostle to colonize the future, or futures, protecting, defending and extending their power there. Power disruptions can challenge entire ecosystems of organizations and ecologies of issues and cause them to reboot, threatening future prospects. They can influence reputation, and therefore ease of operation, and ultimately performance. A threatened power disruption is an unsafe space that a company is likely to try to avoid – or perhaps fight aggressively in. A scenario exercise with participants from various stakeholders involved in the issue can create safe space to explore the future together – and perhaps short-circuit the power disruption. Adam Kahane (in van der Heijden, 2005: 239-242) describes one such process with political leaders in South Africa in the early 1990s: *“This exercise shows the potential of scenarios as a foundation for collaborative action, especially among people who are involved in conflict”* (p242).

Power disruptions may be positive, at least for some stakeholders in a field. Think of the winners and losers in the Arab Spring and other recent high-profile social movements such as Occupy Wall Street. They may create images of new forms of governance that challenge existing power structures and allow new strategic options to become visible. New meanings come from new sensemakings, and new policies and modes of governance come from new meanings.

Scenarios can be useful here. They may provoke power disruptions by enabling new insights and shifts in meaning to become visible among a set of stakeholders of an issue. Participants in a scenario exercise learn to approach the situation they are faced with from different points of view. As one example related to the recent NSA wiretap revelations, Jaron Lanier, a critical commentator on technology, has pointed to what technology mavens are calling ‘PRISM companies,’ a disparaging term for Silicon Valley companies that may have lost their entrepreneurial, independent edge and got too close and too comfortable with government (*New York Times*, 9 June 2013). In a related article the next day, a founder of Watchup⁸ said:

“The success of any Silicon Valley consumer company is based not only on the value their products bring to users but also on the level of trust they can establish... What is at stake here is the credibility of our entire ecosystem” (Streitfeld & Hardy, 2013).

⁸ Adrian Farano. Watchup “makes an iPad app that builds personalized newscasts.”

Perhaps this is just another fleeting signifier in a hyper-self-referential world, but perhaps the cultural gloss on those vaunted companies (Apple!) is now a little less shiny.

Choosing futures methods for decision making

When are scenarios appropriate? Why? I argued above that scenarios are appropriate, or most appropriate, in turbulent environments. But given the rule of thumb that other futures methods need to be used when forecasting doesn't work because uncertainty is too intense/profound, could other futures methods also work as well?

In a recent paper Angela Wilkinson, Diana Mangalagiu and I used scenarios, visioning and forecasting to tease apart some characteristics of different futures methods (see Table 2).⁹ These methods embody different ways of thinking about the future (and the present and past), come with different ways of intervening in systems, and have different implications for or impacts on strategic planning. Also, and this is important for my next point, they take a different 'values stance' toward the future, depending on whether they focus on a preferred future (normative) or on a likely future (descriptive).

Multiple futures methods may need to be used – in tandem or sequentially – in moving from foresight to effective decisions (see Selsky et al., 2013). I propose that further research needs to be done to discern the proper method(s) to use in a particular project, or at each phase of a project – something akin to a contingency analysis.

Table 2. Characteristics of three representative futures methods

Method	Future(s)	Temporal stance	Futures thinking	Values stance	Intervention Approach	Output
<i>Forecasting</i>	Single	Linear: Past-to-future	Closed, convergent	Descriptive: knowing/ seeing the future	Outside-in and adaptive	Probable future
<i>Visioning</i>	Single	Backcasting: future-back- to-present	Closed, convergent	Normative: responsibility for the future	Inside-out and activist	Preferable future
<i>Scenarios</i>	Multiple	Entangled: multiple temporalities	Open, divergent	Descriptive/ critical: creating options for the future	Outside-in and can be either activist or adaptive	(set of) Plausible futures

Source: adapted from Selsky et al. (2013)

⁹ There are, of course, many other futures methods available; search conferences and agent-based modeling come immediately to mind for fresh water situations.

The ethics of foresight

The final issue I want to bring up is the ethical implications of foreseeing and shaping the future. Up to here, I have kept scenario practitioners outside of the systems they are facilitating or the client systems they are consulting to. From this rising-above position they can be either neutral observers of the client's system, or facilitators of client 'success.' Let me now complicate matters by moving the scenario practitioner inside.

Scenarios are not a neutral tool for analysis of situations. A bold claim? It has roots in deJouvenal's assertion back in the 1960s that the future is not neutral; it is a site for political contestation (see Selsky et al., 2013). Therefore, tools and technologies deployed in such contests are value laden, not value neutral. Scenario practitioners need to acknowledge this. They cannot be dispassionate facilitators of client success without taking seriously the goals and values of the client. I believe there is an ethical aspect inherent in all issue-based multi-stakeholder situations. This is almost by definition, if, as I speculated above, turbulence *creates* multi-stakeholder situations out of the fissures in the social ground. Failure, inequality, disadvantage and tragedy dwell in those fissures, and as Andrew Zolli argues, we are responsible for helping people cope with those institutional failures. In considering disasters sparked by natural hazards that implicate governance arrangements in a region, Sircar et al. (2013) talk about "*cascading failures of complex interdependent infrastructure systems, leading to 'corrosive social cycles'.*" Surely such failures should provoke our moral sensibilities. How about Edward Snowden? "*I don't see myself as a hero,*" he said, "*because what I'm doing is self-interested: I don't want to live in a world where there's no privacy and therefore no room for intellectual exploration and creativity*" (quoted in Streitfeld & Hardy, 2013).

Scenario exercises can have analysis or advocacy purposes, or perhaps more accurately, proportions of analysis *and* advocacy. That is, scenarios and other futures methods can have 'adaptive' or 'activist' stances (Selsky et al., 2013). Thus, when a scenario set brings to light a major societal problem that will need to be addressed, how should the scenarist act? This problematizes the role of the consultant or researcher. Can s/he remain the neutral facilitator of the client's 'success'? Can (or *how* can) s/he facilitate decisions that exploit failures and their attendant human tragedies, in the interest of client success? Or alternatively, can (*how* can) s/he help the client – and other stakeholders – engage with those failures to ameliorate them?

The ethics of foresight enlarges the old scenarios concept of *instrumental judgment* (from Vickers; see Curry, 2007: 351), that is, considering the best ways to reduce the mismatch between what is and what ought to be. It is difficult to discern the contours of professional ethics in such cases. Perhaps a good starting point is Michael Porter's recent concept of shared value (Porter & Kramer, 2011), which goes beyond conventional corporate social responsibility to advocate for re-purposing companies to produce societal value as well as company value, and to consider this seriously in strategy and decision making.

In conclusion, we need scenarios – multiple, alternative images of plausible futures of a particular field produced by engaged stakeholders – in turbulent environments so that the inevitable but unpredictable crisis, or the procession of emergent crises, does not violate some single desired state.

Scenarios can shape decision making in several ways:

- recognizing the 'texture' of the environment, especially the distinctive context of the turbulent texture.
- paying attention to the role of sensemaking in how scenarios frame and reframe situations both in the present and in future. This is crucial for learning on the part of those engaging in scenario exercises.
- considering carefully the different set of roles played by scenario work in decision making in corporate versus multi-stakeholder situations (whether industry- or issue-based).
- sweeping governance issues and large-scale system design into the ambit of scenario planning.
- sweeping ethics into the ambit of scenario planning.

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