Reperceiving the Future

World Futures Review
1–17

DOI: 10.1177/1946756717729511
journals.sagepub.com/home/wfr
SAGE

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Abstract

The future is an aspect of time and like clock time tends to be taken for granted unquestioned as an experience. There is a tendency for both futurists and management scientists inadvertently to adopt a first-order paradigm. In this article, I introduce a second-order approach in which the presence of the decision maker is acknowledged. In this approach, the phenomenology of time consciousness provides a basis for expanding time into a present moment with richer dimensionality, enlarging linear causality to a set of multiple influences on the present moment, some of which originate in aspects of what we call the future. We need to extend the scope of futures methods by considering the interaction between agency and uncertainty. High agency combined with high uncertainty is not yet well supplied with appropriate methods. In this region, the act of reperception is fundamental; algorithmic decision methods are out of their depth. In this different paradigm of time, anticipatory systems are crucial. Practice needs the capacity to navigate in a constantly shifting landscape that distinguishes three qualities of the future symbolized as three horizons. One is the future as seen from the dominant present situation. The second is a future desirable emergent states. The third is a future that holds the powerful and turbulent dilemmas between the other two and requires the navigation skill of the decision maker as an anticipatory system. At the core of this anticipatory system is a multidimensional future consciousness with the capacity to see into the future through different lenses of awareness in the present moment.

Keywords

phenomenology, anticipatory system, future consciousness, present moment, multidimensional, agency, uncertainty, three horizons, reperception

Introduction

Futurists study the future. They discuss trends, possible events, images of the future, alternative possible futures, and pathways into the future. Future studies include a range of methods for doing this, and strategic management, including policy formation, endeavors to make use of such studies to help foresight in decision making. Some of these studies are done by detached experts who compile treatises about the future. Some are done participatively with facilitation and involve those who take decisions.

Behind all this is a nagging assumption that we do not need to question what we mean by "the future"; we assume that we know and just get on with it. Yet, is that the case? What do we mean by "the future"?

Generally, we speak about the future as if it exists without questioning the nature of its existence. It must surely exist in some form or

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another if we work with the notion so extensively. But in what sense does it exist? There are a number of viewpoints here in Western management culture and a great many more in other cultures around the world (Dator 2017). There is certainly no single agreed viewpoint.

The viewpoints we hold on the nature of the future have a strong effect on what we value, what we consider significant, and what we act upon (Staley 2017). They affect our methods, practices, and results. It is with this viewpoint that I share some reflections and enquiries of a more theoretical and philosophical kind to dig deeper into answering the question of what we are really dealing with here as the future. Putting the question in this frame contrasts with the kind of answer we get when we deal with material things existing where we can gain evidence, verify by experiment, and generally apply a scientific method. We cannot pin down "evidence from the future" in this way so future studies, however methodical, must differ from being a science in the mainstream sense.

So what does underpin future studies? Here, we find a shortage of discussion for which some balance is currently being sought (Dator 2017; Miller 2010; Poli 2011). This article is a further contribution to that search in the belief, as Lewin (1952) puts it, "there's nothing as practical as a good theory." I shall make a case that a firmer philosophical and theoretical grounding of futures thinking is highly relevant to the continuous improvement of futures practice.

In questioning the basis of the future, we are plunged into the age-old questions as to the nature of time itself. Our common language tends to treat "the future" as something that exists in some sense that makes it studiable. But there are many possible angles on this existence. The future does not seem to exist as the present exists, and so it could be an abstraction, a mental construct that is useful to considering choices. It could have the stronger role of being a depiction of possibilities or an image of a future that might be desired, avoided, or adapted to. The future might also be a convenient illusion giving the impression that we can affect and change it. In contrast, the future might be a set of possibilities beyond the current status quo with different likelihoods of coming to pass. A challenging interpretation could be that our conventional model of time as past, present, and future is itself deeply flawed, and actually we are dealing with a complex multidimensional world in which there are possibilities that, in some real sense, the future does exist and can even affect the present. Perhaps there are event horizons that can be seen by incorporating human consciousness, intuition, and creativity into the means of study.

Alongside these considerations is also the question of method, of the way in which we study the future. If we believe that the future unfolds pretty much based on the past and present, then we study trends and cycles and extrapolate them into the future. If we believe that the future is not necessarily a continuum, then we look for possible trend breaks, discontinuities, and breakdowns. These may be unpredictable or like economic bubbles, predictable. The unfolding of the future may not be linear so we may use systems models to simulate complex behavior and see what happens. Images of the future depend on recognizing plausible (and even implausible) patterns that give shape to a future state of affairs. Faced with obscurity in the future, a kind of "future fog," we can use imaginary worlds as hypotheses or we can extrapolate inevitable consequences that might be invisible to most people.

Foresight is evoked usually when a strategic decision is being shaped. Options can be tested against alternative futures for resilience. Often the methods employed will be shaped by our motivations. This could be in shaping a decision for making a choice, for wondering whether good or bad things are going to happen, or wondering if there is sufficient time to accomplish something. We might also strategically be looking ahead to see how we might beat the competition by having a better angle on the future, or how we might put in place a policy that will prevent something undesirable happening in the future.

I mention these basics of futures studies because any useful theoretical considerations of the nature of time and the future will need to shed some new light on these practices and applications. I will adopt two perspectives in

considering the nature of time. First, I will consider a theoretical perspective, which will draw on both the physics and the philosophy of time and question some of the ingrained assumptions in our culture. Second, I will develop these thoughts in relation to playing a role as a practitioner facilitating applied futures work and its psychology.

Theoretical Perspective

The Phenomenon of Time

The question of the nature of the future is also the question of the nature of time. Although people have been trying to understand time for millennia, it is still understood in many diverse ways (Gell 1992). Although the question seems abstract and elusive, assumptions about time are deeply woven into the way we conduct our affairs—whether it be with clocks, calendars, or seasons. These are all in some way placed outside of ourselves. But time is also deeply embedded in our experience where it is harder to bring it into focus to make sense, addressing the issue that we are caught unconsciously in assumptions that are not examined.

The task of reframing our everyday understanding of time takes us into the area of phenomenology. A suitable bridge is a proposition about the future made by Heidegger:

> To designate the authentic future terminologically we have reserved the expression "anticipation." This indicates that Dasein,[1] existing authentically, lets it come towards itself as its ownmost potentiality-for-Being—that the future itself must first win itself, not from a Present, but from the unauthentic future. If we are to provide a formally undifferentiated term for the future, we may use the one which we have designated the first structural item of care—the "ahead of itself." Factically, Dasein is constantly ahead of itself, but inconstantly anticipatory with regard to authentic possibility. (Heidegger 1926, p. 386)

Experientially, a starting point is the present. From that perspective, the only time is *now*. But now is not a fleeting instant between the past and the future. The phenomenology of time consciousness has a richer content. For example, Husserl (1991) develops his theory regarding the problem of the continuity of the perceptual present to contrast with this conventional idea that *now* is a "thin" present between the future and the past. Instead, he saw it as a "thick" present.

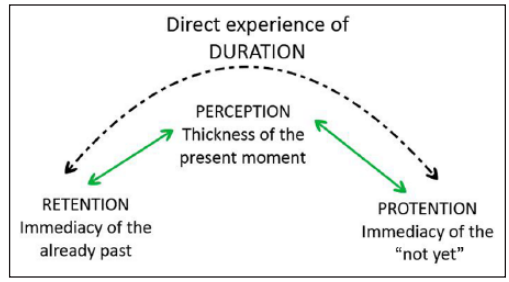

Figure 1. The phenomenology of time consciousness.

For example, if we are listening to a note played on an instrument, we hear it as a continuous duration. When we are partway through, the sound of the first second is no longer audible. In terms of our experience, however, it is still a present tone that we are hearing. The meaning of the tone in, say, a musical work, is evoked in relation to its future ending. The immediate experience of the earlier part of the sound is not the same as a recovered memory of that sound. There is a distinction between *retentions of experience* and memories of that experience. The experience of the future of the sound is protention. Retention and protention create an extended duration, an expanded present (see Figure 1). Retentions are qualitatively different from memory reproductions in that they are all part of the current consciousness of the present. Protentions also contain elements of the emergent proximate future, which can be distinguished from fantasized futures. The present moment, thus, contains elements of both past and future, experienced as an extended now. Future consciousness is an aspect of this present moment.

Enriching Time—The Present Moment

Poli supports the idea that the present can no longer be considered an instant that interfaces

between the past and future, a knife edge between them. "The idea is gaining acceptance that the present has both some duration and some depth—and therefore a rich multifarious complex series of structures" (Poli 2011, 71). Interpretations of time have a reflexive effect on whether time is considered as primarily cyclical, linear, or eternal (Botta 2017).

Bennett (1966) considerably enriches the notion of the present moment in his approach to the examination of immediate experience; his starting point being that, insofar as we can have any direct perception and sure knowledge, this present moment is all that there is. Within this present, he sees both perpetual perishing and perpetual renewal, both requiring some explanation. The content of our present moment can be described as "immediate mental objects"; which is, so to say, the "furniture" of the present moment. However, we are also aware of a boundary to our awareness of content between the perceived and the unperceived. Within the present moment, we make inferences based on traces of what seems to be "on the other side" of the boundary. We infer this through those immediate mental states we can call traces and expectations. Meaning, in the present moment, can be associated with the recognition of recurring patterns.

In Figure 2, the oval describes the scope of a given present moment. This represents a boundary between the perceived and the unperceived, which is indefinite or "fuzzy" and fluctuates with our state of consciousness. The primary content of the present moment is its configurations of immediate mental objects. These comprise instant mental impressions, traces and memories, and expectations and hopes. The conventional interpretation of this content labels it "present," "past," and "future." But a number of other factors also characterize the present moment. It is not fixed in duration; it varies with our state of consciousness. Equally, the content varies as our experience shifts. We can describe the present moment as "thin" when the duration or interval of time is small and the content is small. However, we can characterize it as "thick" when we embrace the entire field of our concerns and do so through an expansion of our awareness range. In all of this, we make interpretations of our experience, which are some combination of conscious and subconscious framing.

Poli (2011) also points out that a deeper and more comprehensive investigation of what we mean by the future leads to a much richer picture to be taken into account, and leads us to the beingness of the present moment.

> The present is articulated along different dimensions. Some dimensions of the present include the actively remembered past and imagined futures. Other dimensions instead include natural and social rhythms, both visible and latent. We have seen that the first tentative steps taken towards ontology by introducing dispositions had to be supplemented by the more articulated theories of anticipation and latents. The net consequence of all this is that one cannot escape from ontology. (Poli 2011, 75)

The question that here needs examining is how far the past-present-future distinction can be consistent within the present moment. The proposition is that an event that is "immediately passed" (not long gone) is still apprehended and, therefore, is not simply memory, and how an event coming-to-be is apprehended is not simply a prediction of a causal consequence. A step in the reframing is to propose that the apprehension of time as duration is not built up from awareness of succession, but rather awareness of succession derives from a prior awareness of a "whole" or duration of time already experienced. Content can have generative power that creates further present moments such that neither simple linear causation through time nor the unfolding of an otherwise timeless universe are adequate explanations. In the world of quantum physics, Smolin (2013) proposes a mathematical model of causation of a thick present, called energetic causal sets, such that each moment may be the parent of future events. A thick present moment has not spent its capability to parent new events.

Another perspective on the experience of the present moment is the notion of an implicate order (Bohm 1980). According to Bohm, we can suppose there is order in the universe that differs from simply an arrangement of objects or events. This type of order is contained, in some implicit sense, in each domain

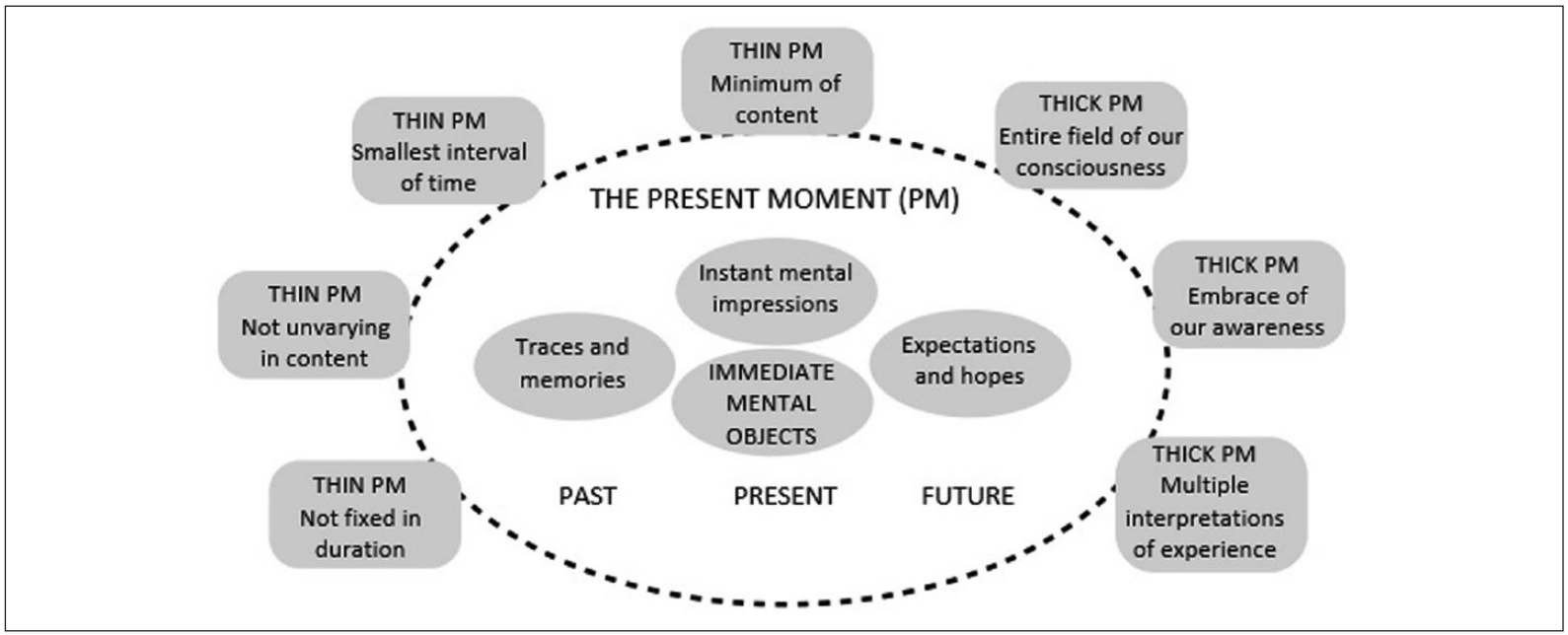

Figure 2. The experiential structure of the present moment as the embrace of our awareness.

of space and time. The word "implicate" means to fold inward. Thus, a total structure is enfolded in this domain. This defines the implicate order. Because this ordered structure is present in both space and time, then it is reasonable to suppose that each present moment has its own implicate order.

Exploration of the present moment must acknowledge that it is a property of a self, a subjective experience. It is reflexive and second order in its character. The present moment is reflexively observed. In second-order cybernetics, the observer and observation are inseparable, and the act of observation is in some observer's present moment. It is constantly changing, a state of "perpetual perishing," which we interpret as time. However, observation of our experience shows that it is also in a state of perpetual renewal, sustaining the here and now. Its variations for each one of us are a function of our own consciousness in the present. Bennett puts it this way:

> The extent and coherence of the present moment are evidently connected with the embrace of our awareness. We can say the present moment of each one of us is relative to the integrative power of our own will. For subjective idealism, the present moment is nothing but the content of the mind. For objective materialism, the mind is nothing but the context of the present moment. The two viewpoints are contradictory only if we import artificial distinctions of past, present and future, or here and now, there or elsewhere, into our interpretations of experience. (Bennett 1966, 14)

We are not used to thinking of structured wholes being an aspect of consciousness that is beyond the subject/object distinction and beyond the realist/idealist dichotomy. Present moment implicate order offers this alternative. A disjunction between our experience of the present moment and the whole interpretive edifice that we have constructed around time, stasis, and change reveals the subjectivity of our assumed objectivity.

Maturana (1995) asserts the view that we live a continuous present and that, as observers, we invent past, present, and futures to give an account of now. This is a function of our being "languaging" creatures:

> We live our existing in language as if language was a symbolic system for referring to entities of different kinds that exist independently from what we do, and we treat even ourselves as if we existed outside language as independent entities that use language. Time, matter, energy, . . . would be some of those entities. (Maturana 1995, 2)

In this sense, the present moment can itself be considered a way of languaging our reflections on being present in our living state and as an aspect of the continuous process of creating ourselves as autopoietic beings (Boyd 2010). But there is a catch here.

The intellectual constructs we make regarding space, time, and future are sharply distinguished from the phenomena of our experience by Bergson. Duration, for Bergson (1910), is continuity of progress and heterogeneity, which implies a conservation of the past. Memory conserves the past, and this conservation does not imply that one experiences the same (re-cognition), but difference. One moment is subsumed into the old ones. The past is "larger" for the current moment than it was for the previous moment because we are talking here about retentions of retentions, the former containing, and therefore being "larger" than, the latter.

> We can thus conceive of succession without distinction, and think of it as a mutual penetration, and interconnection and organisation of elements, each one of which represents the whole, and cannot be distinguished or isolated from it except by abstract thought. Such is the account of duration which would be given by a being who was ever the same and never-changing and with no idea of space but familiar with the latter idea and indeed beset by it, we introduce it unwittingly into our feeling of pure succession; we set our states of consciousness side-by-side in such ways to perceive them simultaneously no longer in one another but alongside one another. In a word we project time into space; we express duration in terms of extensity, and succession thus takes the form of a continuous line or chain,

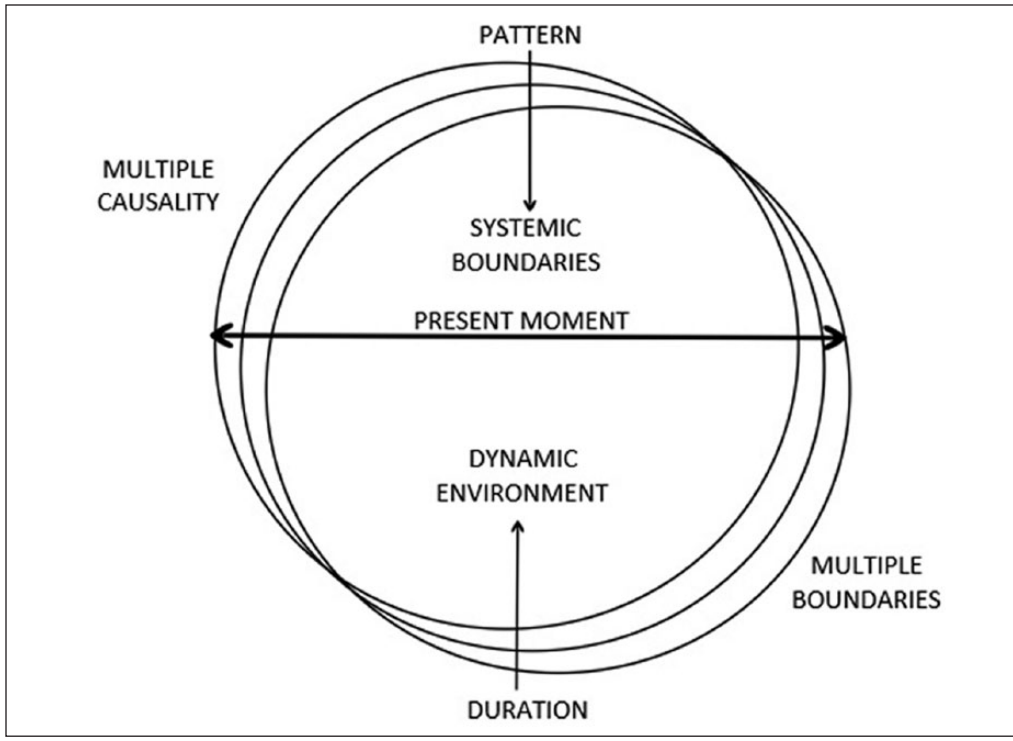

Figure 3. Boundary critique and futures thinking.

> the parts of which touch without penetrating one another. (Bergson 1910, 101)

Clearly, this way of looking at time and experience is different from our customary one and challenges us to perceive in a different way than the usual, or, in a word, to *reperceive* (Wack 1985).

Beyond Simple Causality

The hyperturbulent environment (McCann and Selsky 1984) of today challenges human organizations to maintain a purposeful present moment that can sustain the resilience needed for surviving and thriving.

In Figure 3, the circle represents the domain of self-determined purpose. This may be individual or social (Ackoff and Emery 1972). Because interests are complex and overlap, there are multiple circles with *multiple boundaries* (Midgley 2000). The horizontal double-headed arrow labeled *present moment* is the way we describe the scope and content of the domain of interest. That is partly determined by the direct experience of *duration* and the systemic boundaries that define the domain. The double-headed arrow also represents a time span of interest in the more conventional sense.

The present moment is also characterized by the complex *pattern* of entities, processes, and causal relationships that pertain and is also characterized by its own *dynamic environment*, which is an essential concept to avoid falling into the trap of fixed images of time. Within this whole area, causality is not a simple linear property but complex and multiple. In this sense, this approach echoes the notion of Aristotle of the four types of cause[2] (Falcon 2012).

How can we anticipate in a hyperturbulent environment? Poli (2010) points out that anticipation implies a shift in the paradigm of causality. It especially needs the recognition of latency, that a situation can be open and with hidden aspects. The concept of latency or potential is a crucial component of the elaboration of the present moment. Latency relates to

the experience of perceiving potentiality for being. Poli (2010) also makes the distinction between explicit and implicit anticipation. Explicit anticipations are those of which the system is aware. Implicit anticipations work below the threshold of consciousness.

Ogilvy (2011) reinforces the condition of openness of the present moment with the idea of the "scenaric stance," which is able to hold contradictory possibilities and space for creativity. It must be emphasized that the "scenaric stance" is not the same as defining multiple (usually four) scenarios that is now widely practiced in scenario planning. It represents

> . . . a new approach to the future, a new attitude toward time. Neither ahistorical like the ancients, nor optimistic like progressive modernity, nor present mystic like the post-modernists, this new approach will hold in mind at once both the high road and the low road, and acknowledging the possibility of either, and giving full weight to human will in determining which path we actually take. (Ogilvy 2011, 20–21)

Miller (2011) welcomes this step and reinforces it as a promising basis to develop an ontology of the future, without which, futures studies are increasingly sterile in a complex, emergent, and reflexive world.

This way of looking at the future requires us to rethink our capacity to embrace permanent ambiguity and to put our faith in acting in an anticipatory way in the present. It implies a recovery of a worldview enabling the creative openness of our experience. Miller sums up the implications of this: "The perpetual ambiguity of Ogilvy's 'scenaric stance' calls on us to live the novelty that defines each instant of the reassembling present[3]—at once inherently novel and closed—until the next moment" (Miller 2011, 30).

The anticipatory present moment (Hodgson 2016, forthcoming) implies

- multiple futures, not necessarily compatible, are held in the consciousness of the present;
- future consciousness is open to the presence of choice and creative action;
- the mind must be capable of being steady in its embrace of this openness and complexity;
- responsibility for choice in the face of undecidable questions (von Foerster 1995) of the unfolding future.

Practitioner Perspective

As a practitioner facilitating the application of future studies, I have been particularly interested in the nature of the cognitive and emotional challenges (Hodgson 2007) to executives prompted by the need to take into account possible futures that do not sit comfortably with their prevalent mind-set. Decision makers face a fundamental dilemma between the sure leadership of sticking to a justifiable strategic course and the unsure leadership of changing course in the face of little tangible evidence. The future might be inferred, speculated upon, or imagined, but it cannot be known in the same way as the measured course of current momentum. Or, more precisely, the interesting aspects that give strategic advantage cannot be known in the usual way.

The decision maker is challenged to consider alternative futures to the usual assumptions that are not understandable at the level for commitment because they require a significant shift in both the mental models and the attitudes of the decision maker. The facilitator is challenged to help the decision maker experience the needed reperception and reframing that internalizes a new future to the intensity of action.

Four Modes of Futures Work

Shifting to a new pattern requires some form of strategic reframing with foresight (Miller 2010). I will describe the various disciplines of foresight and futures studies using a framework introduced by Sharpe (2008, 2016). Foresight can be classified into four types according to the extent to which the decision maker has agency to do things and the degree of uncertainty they are facing in their decision field. By agency, we mean the power to

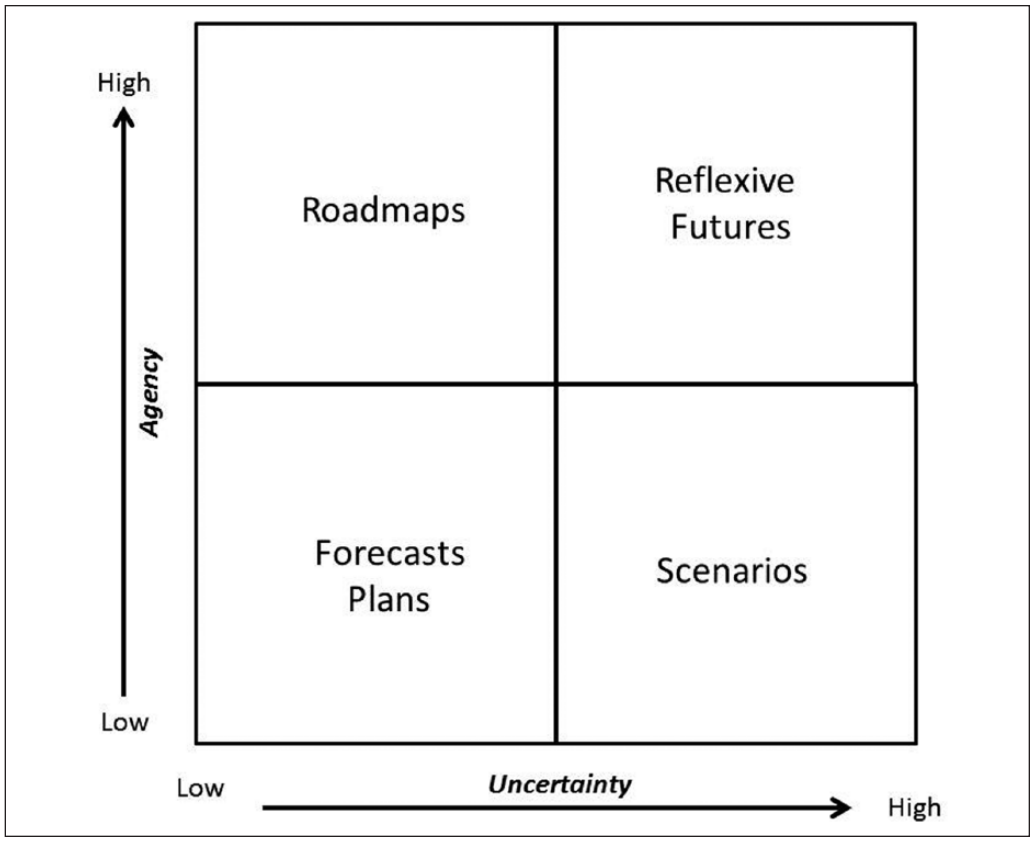

Figure 4. Four broad categories of foresight method (after Sharpe 2008, 2016).

influence or shape the wider environment. This distinction classifies four basic modes of futures methods, as shown in Figure 4.

If the decision maker has relatively low agency, for example, when planning in a going concern, and the operating environment is relatively stable and certain, then the classical methods of forecasting followed by resource planning in relation to those forecasts can be effective. These methods generally assume a predictable world where, for example, the measurement of past trends can be extrapolated into the future without any problem arising. The limitation of these methods is that they assume the continuity of a fundamental pattern with perhaps minor incremental changes. Innovation based on this will tend to be reinforcing or rescuing the status quo.

If the decision maker has high agency in a relatively stable and certain operating environment—as, for example, when implementing the rollout of a proven technology enterprise—then the method of road maps (Kostoff and Schaller 2001) into the future applies. "A 'roadmap' is an extended look at the future of a chosen field of inquiry composed from the collective knowledge and imagination of the brightest drivers of change in that field" (Galvin 1998, 803).

If the decision maker has relatively low agency but faces a very high level of uncertainty, then the method of multiple future scenarios applies. The origins of scenario planning in Shell illustrate this (Wilkinson and Kupers 2013). Although Shell is a massive international company, its size and impact relative to the total energy market and the geopolitical context of energy indicates that it has relatively low agency compared with the scale and power of its global context. Also, the uncertainties over a twenty- to thirty-year exploitation time span surrounding the geopolitical and geological conditions

necessary for economic oil extraction and refinement are considerable.

It is interesting that, in the foresight disciplines, there is still relatively little methodology for the fourth box where both agency and uncertainty are high (Grim 2013; Harkins and Morovec 2011), and yet this is the area that is increasingly the hypercomplex operating environment for government, commerce, and society more generally. This necessity—for example, in the challenge of climate change (Fazey et al. 2017; Levin and Hampel 2017)—is stimulating development of fourth quadrant approaches.

One expression that describes this fourth area is "reflexive futures." This might also be characterized as strategic exploration. The high agency component of the decision making is reflected in a practice of setting a strong vision of a future state of affairs in which the actor is occupying a desired position (much as Ackoff 1981 recommends in his Interactive Planning systems approach). The uncertainty component of the decision making is treated in qualitatively different time zones, each with its own dynamic. By qualitatively different, we mean features like the differences between predictive, transformative, and emergent ways of framing the future.

This method of three horizons (Curry and Hodgson 2008; Sharpe 2013; Sharpe et al. 2016) has been developed specifically to provide a practical means of tackling the challenges of the fourth quadrant.

The Importance of Reperception

Burt (2010) describes Wack's (1982, 1985) notion of reperception:

> . . . Wack (and others) recognised that there were significant barriers to overcome. Barriers such as: managerial recipes and industry recipes. Recipes are professional knowledge based on common experience from which a set of beliefs and some rules of thumb are developed. Over time they become habitualized and institutionalized. Once institutionalized these recipes guide managerial thinking and acting by determining (and limiting) "what is for us" and "what is not for us." (Burt 2010, 1478)

This is consistent with a second-order systems perspective where the decision maker is an integral component of the decision systems he or she works within (Umpleby 2007). Reperception therefore changes the system in action.

Creativity, Imagination, and Reperception

Creativity and imagination are closely related to reperception. Markley (2012) and Miller (2011) both see an important role for creativity and imagination in futures work, taking a position that the future is open. I concur with their view that, although much futures work needs to be grounded in scanning and analysis, in terms of strategic decision making on any scale, there needs to be scope for going beyond the data.

Induction (Holland et al. 1986) is another way of interpreting reperception. A crucial aspect of this is the recognition of anomalies, things that do not fit the usual set of assumptions.

Reperception as creativity is perhaps stronger in the context of entrepreneurial activity. The entrepreneur is not only reading possible futures differently from the mainstream, but is imagining how to make the future turn out differently from what is generally expected. There is a "make a new future happen" component. This is not independent of insightful reading of the environmental trends. Successful new enterprises often are led by people who see a wave of the future coming but modify it by "surfing" the wave with new products or services. For them, that future is now, but it has not yet been unfolded and distributed.

Reperception as enactive cognition emphasizes that a passive analytical stance is unlikely to be sufficiently grounded in real world happenings and trends to be sufficiently convincing.

Shifting the Paradigm of Time

A paradigm designates the fundamental categories of intelligibility (Morin 1999) and controls their use. Individuals are conditioned how to know, think, and act according to these interiorized culturally inscribed paradigms. In other words, the paradigm has a strong

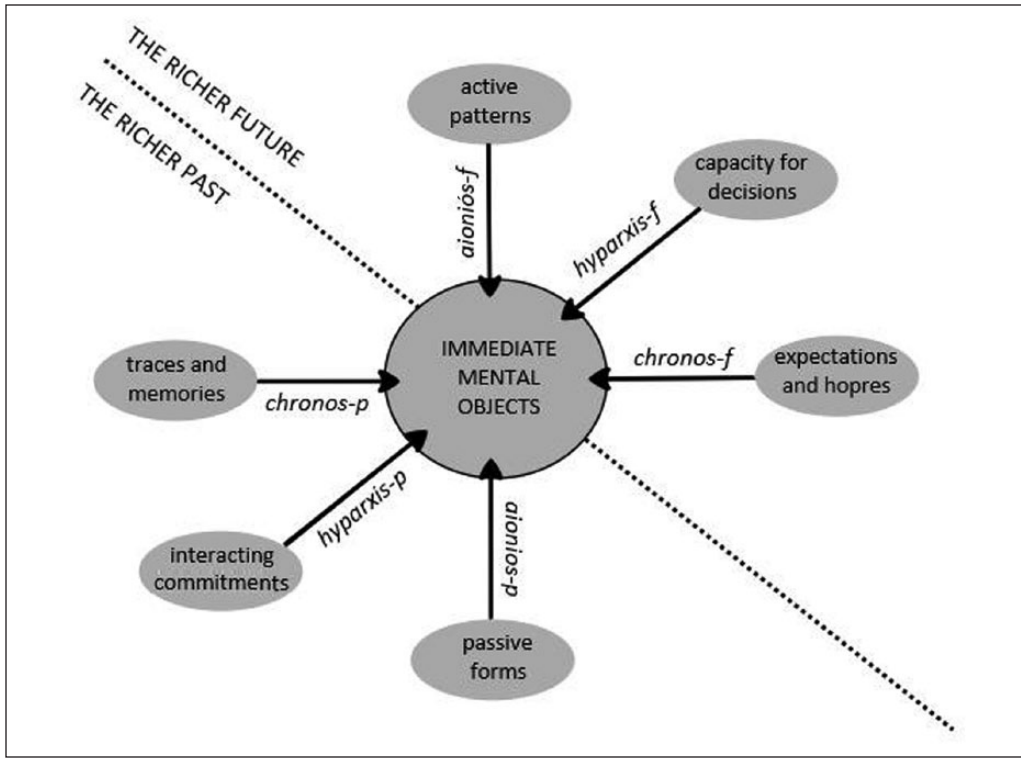

Figure 5. The multidimensionality of the present moment.

emotional and subconscious power that holds people to a dominant belief system.

> The paradigm is both underground and sovereign in all series, doctrines, and ideologies. The paradigm is unconscious but it irrigates and controls conscious thought, making it also superconscious. In short, the paradigm institutes primordial relations that form axioms, determine concepts, command discourse and/or theories. It organises their organisation and generates their generation or regeneration. (Morin 1999, 9)

The futures practitioner is challenged to facilitate decision makers to shift their paradigm. This is not easy as it may well require such a shift in the mind of the facilitator first.

In my own work, I have found the extension of Bennett's scheme, which introduces two additional time-like dimensions, very helpful as a change of time paradigm. I have discussed the fundamentals of this elsewhere (Hodgson 2013, 2016). Here, I want to emphasize the impact this has on practice, especially regarding the question, "what do you mean by the future?" To represent this extended view of the present moment, Bennett (1966) uses the convention of bracketing space and using its three dimensions to represent time and two additional dimensions. One problem is getting beyond the habitual associations we have with the words "time" and future" so Greek names are used to challenge us to move out of the associations of our usual thinking.

The three additional dimensions to the three of space are *chronos*,[4] *aiónios*,[5] and *hyparxis*,[6] as shown in Figure 5. At the center is the total set of immediate mental objects that constitutes the conscious experience of the present moment. The horizontal dimension refers to the way the content of the present moment, in the form of traces, memories, and expectations and hopes, creates the span of time. The vertical dimension represents the latency in the form of active patterns and appearance as passive forms. The diagonal dimension, or *z*-axis, represents what we might call living commitments entering from the past but differently

from causal time. It also represents, intriguingly, influences from choices not yet made but held in mind.

Associated with the idea of dimensions of time is also the idea of the *qualities* of time. Because the common interpretation of time is so clock-bound, it is better to describe them as "time-like dimensions." A challenge to describing this idea comes from two seemingly contradictory, prevalent views. There is the "common sense" view, also supported by the majority of physicists, that time's arrow travels only in one direction (from past to future). The contrasting view of a minority is that common sense time is an illusion, and there is no flow (Callender 2014).

A further interpretation is that influences enter the present moment from the future as forms of retro-causality. The richness of the present moment is a function of the extent and quality of the different types of influence. Each dimension is an influence entering and enriching the now. To visualize this, we need to suspend the convention that time flows from left (past) to right (future) and consider the dimensions as converging to "now" at the center. The spatial axes x, y, and z by analogy enable us to visualize that these influences come into the present from these different dimensions. In Figure 5, all the arrows point *into* the sphere of the present and impact the mental experiential content. In more conventional terms, three of the incoming influences are past-like (including linear time labeled chronos-p) and three of the incoming influences are future-like, including future influencing the present (labeled chronos-f).

Conventional time is experienced through the traces and memories in the mind that imprint the present from the past. Retro-causality, whether imaginary or for real, is experienced as expectations and hopes. The passive form of *aiónios* is the presence of relatively enduring forms. The active side of *aiónios* is the vast superposition or multiple presence of possible patterns and states. The *hyparchic* past is the sense of meaningful dynamic or interacting commitments that still prioritize in the present. The *hyparchic* future is the region in which the present moment is open and evokes choices and decisions. Thus, there are six sources of insight that can contribute to future consciousness, and they can be deliberately incorporated into practice.

Anticipation beyond Foresight

Anticipatory Systems

One of the challenges of integrating futures studies with decision making is that decision makers and futurists live in different worlds with different mind-sets. Cybernetically, this leaves foresight only weakly coupled with execution (Beer 1994). The cybernetic coupling of decision and foresight makes for an *anticipatory system* (Rosen 1985; Poli 2010). From a strategic decision-making perspective, our interest in the future is to anticipate it sufficiently to take advantage of opportunities and be better able to avoid threats (Fuerth 2012). Anticipatory systems go beyond foresight and futures studies and also beyond the usual decision-making processes (Poli, forthcoming).

An anticipatory system has a modeling function, which is able to carry out time path mapping faster than the unfolding of "real" time (Louie 2010, 2013). The impact of the output of this internal modeling on the behavior of the system is not to be confused with feedback, which is information from the past about deviation or error from a set norm. In contrast, information from anticipated future states is essentially a *feedforward* process. This feedforward capability is also implicit in the Conant-Ashby principle that any regulator of a viable system needs to incorporate a model of its own system and its environment (Clemson 1984; Conant and Ashby 1970). Anticipation implies deciding what to do now in this present moment in terms of what is perceived to be the consequence of that action at some later time than the immediate now (Louie 2010) and in radically changed circumstances. Feedforward requires the system to have the capacity to model the world in such a way as to estimate future developments powerfully enough to actually commit to what seems to be imprudent (e.g., betting the firm).

Feedforward may also emerge as a cybernetic consequence of intuition.

Reflexivity, Navigation, and Learning

An anticipatory system is able to consider decisions as open rather than constrained in an algorithm. Open decisions arise in the face of undecidable questions (von Foerster 1995) and are second order in nature (Hodgson 2010). They are a key component of strategy work in any form of leadership. Strategy work in management weaves together understanding of the decision field (e.g., the global market for energy) with the decision process (e.g., how do we make the shift from fossil to renewable energy systems?). An executive group or team running a business will form, from this weaving together, a decision system. This will include formal and informal components and be guided by the explicit and tacit knowledge of the team members. The more long range their strategic concerns, the more the decision field will be filled with complexities and uncertainties, and the more they progress, the more they will be confronted with undecidable questions.

van der Heijden (2005) recognizes, over many years of observation and participation in high-level strategy work, that decisions are arrived at by a reflexive decision process that is essentially one of mutual learning.

> The learning loop model shows the interwovenness of thinking and action. If action is based on planning on the basis of a mental model, then institutional action must be based on a shared mental model. Only through a process of conversation can elements of personal observation and thought be structured and embedded in the accepted and shared organisational theories-in-use. Similarly new perceptions of opportunities and threats, based on the reflection on experiences of actions playing out in the environment, can only become institutional property through conversation. (van der Heijden 2005, 4)

However, the reflexive mutual accommodation of strategic conversation is still a rarity in management. The dominant mental orientation of managers tends to be deterministic, taking place within a power hierarchy. Management cultures are characterized by nonnegotiable hierarchies, and by the domination of powerful individuals who may seek advice but are often not open to reflexive review of their biases and beliefs. The result is an absence of necessary learning, a tendency to repeat previous mistakes, large-scale external diseconomies, and an absence of ethical decision making. In extreme cases, this becomes pathological and has been called the "hubris syndrome" (Daedalus Trust 2012; Magnam and Cormier 2013; Owen and Davidson 2009). In other words, there is an incapacity to be an effective anticipatory system.

Uncertainty and Complexity Inescapable

Futures methods are often dominated by models, calculations, and measurements. These initially helpful approaches can also become blindness in the face of hypercomplexity. To break free into a form of futures thinking that has a better correspondence with the messy situations that present themselves, we need complex thought. Morin (2008) sums up the challenge eloquently:

> What is complexity? At first glance, complexity is the fabric (complexus: that which is woven together) of heterogeneous constituents that are inseparably associated: complexity poses the paradox of the one and the many. Next, complexity is in fact the fabric of events, actions, interactions, retroactions, determinations, and chance that constitute our phenomenal world. Such complexity presents itself with the disturbing traits of a mess, of the inextricable, of disorder, of ambiguity, of uncertainty. Hence the necessity for knowledge to put phenomena in order by repressing disorder, by pushing aside the uncertain. In other words, to select the elements of order and certainty, and to eliminate ambiguity, to clarify, distinguish, and hierarchize. But such operations, necessary for intelligibility, risked leading us to blindness if they eliminate other characteristics of the complexus. And in fact, as I have argued, they have made us blind. (Morin 2008, 5)

The shift to a complex world challenges the whole of society. Novotny (1994), in her

sociological analysis of time in contemporary society, points out that Western linear time is linked with industrialization and what she calls "the brutal adaptation of human labour and life to the machine." (Morin, 2008) She sees this now creating a longing for the moment, which for that moment makes everything possible and which can open up fresh future histories. This requires a different appreciation in individuals and society of the qualities of time and especially of the future. The challenges to futurists are also the challenges to all of us.

Seeing the Future in New Ways?

As an alternative to studying the future "out there," we can switch to enhancing future consciousness (Lombardo 2006) in the present moment. In this, we recognize the six vectors of influence on the present moment, some of which can be researched, some thought through, and others intimated by our own states of mind, including intuition and vision. Then, we seek a synthesis or integration of these that evokes a current message of "feedforward." Whoever has participated in this process as a second-order discipline (Hodgson 2016; Miller et al. 2013) will discover whether the signals are powerful enough to prompt radical adaptive or even transformative action that deviates from the norm.

My thesis is that a constrained view of the nature of the future limits our capacity to act with wise anticipation. The seeming paradox is that as complexity, uncertainty, and conflict increase and prediction loses its value, we actually need to enrich, not diminish, our understanding of the nature of the future. In this article, I have offered some notions to factor into the exploration.

In summary, I propose we take a second-order approach (Hodgson forthcoming) in which the state of future consciousness of the decision maker is acknowledged. In that state, the phenomenology of time consciousness provides a basis for expanding the present moment into a richer dimensionality that enlarges our interpretation of causality to a set of multiple influences on the present moment, some of which originate in aspects of the future.

Then, in practice, we need to extend the scope of futures methods by considering the interaction between agency and uncertainty. This generates a further region that is not yet well supplied with method. In this region, the act of reperception is fundamental as is the recognition that algorithmic decision methods in this region are out of their depth. In this different paradigm of time, the importance of anticipatory systems that incorporate feedforward as well as feedback emerges. So practice now incorporates the capacity to navigate in a constantly shifting landscape that is easier to read by distinguishing three qualities of the future symbolized as three horizons. One is the future as seen from the dominant but limiting present. Another is the future as containing alternative value informed reading of possible future emergent states. The third is the future that holds the powerful dilemmas between the others and requires the navigation skill of decision makers and futurist integrated in an anticipatory system.

At the core of this is the development of a multidimensional future consciousness that integrates scanning and logic with the capacity to see into the future through different lenses of awareness in the present moment.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. *Dasein* means "being-there" or more colloquially "showing up."
2. Material cause: "that out of which";
   Formal cause: "the account of what is to be";
   Efficient cause: "the primary source of change";
   Final cause: "that for the sake of which a thing is done."
3. The term "reassembling present" refers to the dynamic and even transformative possibilities within the present moment. Miller also refers

to this as openness to a creative future rather than a predicted one.
4. *Chronos*: time on the move, time as before and after, measurable time.
5. *Aiónios*: agelong, eternal pattern, unending, lasting an age, totality.
6. *Hyparxis*: realized being, ableness-to-be, manifestation, capacity to bring about.

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