Towards an Ontology of the Present Moment

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Structured Abstract:

Purpose: The aim of this paper is to propose that conceptions of time and future that are currently in use restrict the possibilities for framing decision making. By privileging the notion of present moment over that of linear time a more comprehensive framing of what it means to consider what influences our judgements. The ontology of the present moment provides a theoretical context for knowing what we can of the future in a more comprehensive way.

Methodology: A review of ways of knowing the future that extends beyond linear assumptions of time leads to consideration of anticipatory systems and of the relationship between purpose and causality. It leads further into conjecture that the present moment is more ontologically fundamental than what we customarily refer to as past, present and future.

Findings: On this foundation, examination of experience of now reveals a multidimensionality which can include retrocausality, the possibility of the future influencing the present and the importance of latent patterning in determining events.

Research Implications: The notion of the present moment has much in common with second order cybernetics and indicates a possible way of bringing systems thinking, especially boundary critique, to futures thinking and strategic decision making**.**

Practical Implications: Although basically a theoretical paper, the framework does suggest possibilities for redesigning futures practice through using the present moment as a meta-framing critique technique to reveal more clearly underlying assumptions in both futures studies and systems thinking.

Originality/Value: In the context of a world where serious inability to see what is coming is pervasive in management and governance, a fresh look at fundamental assumptions may reveal flawed decision thinking and indicate ways of improvement.

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Towards and Ontology of the Present Moment

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1 Dealing with the Future

Picking up the theme of this special edition, this paper investigates the possibility of a different way of framing the future with implications for how we practice future studies, whether it be in the academic sphere or in professional practice. The main focus of this paper is on framing the ontology of the future as the ontology of the present moment but begins with examining the question "what are the different ways that we claim to know the future?" This is the epistemological view which reaches certain limits to deal with reflectivity, purpose and creativity. Moving on from there an ontological view is developed leading to the proposition that the present moment is more fundamental than time in terms of the conventional assumptions of the nature of past, present, and future and 'time's arrow'. This alternative viewpoint seeks to change our way of interpreting and perceiving the nature of the future, how it might be anticipated, and even how it may be influencing the present in ways that our conventional thinking has not been able to grasp.

In conventional terms, we "know" the future in three basic ways. Firstly, we imagine that things which have happened in the past will in some way continue and repeat themselves in the future. Essentially this is the world of extrapolation and prediction. It assumes a world largely determined by linear cause and effect. Secondly, we observe aspects of a current complex situation, perhaps recognising a pattern of relationships, and assume that the pattern will continue. There may be scope for a variation in the pattern but the general shape of the future will be determined by it. Thirdly, and unusually, we may adopt a mental orientation that in some sense the future, or some critical aspect of it, already **is** and is in some way influencing the present. In strict professional quarters this view is considered outside authentic discipline but shows up in popular culture as notions of precognition, divinations and even prophecy.

The various tools and techniques of futures studies and strategic foresight adopt these different perspectives, albeit usually implicitly. For example, the notion of linear time is a dominant assumption behind techniques of extrapolation, whether algebraic or statistical. If these assumptions are not rendered explicit then it becomes difficult to develop both an underpinning theory for futures work and also difficult to construct a consistent critique. Further on in the paper these assumptions will be described and discussed in more detail.

There is a whole language associated with futures thinking which can give us some clue to what is needed in establishing a more robust ontology of the future. Viewed from the perspective of a decision maker there are a number of keywords that imply a way of looking at the future and at what it means to the concerns of the decision maker. In conversation about strategic issues these words keep cropping up as possible tools to understand better what the choice is, and what the context of that choice is. They include:

Predict - framing the future in a quasi known state

Foretell - being sufficiently informed to see the inevitable, even if unusual

Anticipate - recognising what needs to be ready ahead of time to secure a robust decision

Simulate - rehearsing a gaming situation that models and reveals a future state

Design - recognising that vision and initiative, can bring about a different future from a current trajectory

Create - having creative power combined with enterprise to bring about a desired future

As a sample of the kinds of words and concepts that come up in applied futures work, these each reveal a different set of background assumptions about the nature of the future, the nature of the present and the nature of the past. A developed ontological view of the future might well give us clearer criteria as to which of these could actually deliver good results depending on intention and circumstances. The hypothesis in this paper is that we need to shift our centre of attention from the future to the *present moment* to gain a different perspective on the future. Most futures practice is concerned in some way with knowing the future better than if that work is not done. Knowledge of the future is not an exact science in the normal sense; it has no data from the future to measure. But there is an epistemology for the future that needs reviewing to provide the base for stepping into ontology.

Millett (2011 p. 4) summarises five principles that he regards as basic to future studies and futures practice. They are:

"1 The future will be some unknown combination of continuity and change.

2 The future can be anticipated with varying degrees of uncertainty depending upon conditions.

3 Futuring and visioning are different but complementary perspectives of the future.

4 The best forecasts and plans are methodically generated and provide well considered expectations for the future.

5 There is no such thing as an immutable forecast or plan for an immutable future. Forecasts and plans must be continuously monitored, evaluated, and revised according to new data and conditions in order to provide real-time frameworks for making long-term decisions and strategies."

In the above principles there are a number of implicit assumptions about the nature of time and about the nature of anticipation or forecasting. I will begin by dividing these in the conventional framing of past, present and future. Within each of these three categories there are frequently applied methods that give structure to the futures discipline.

Extrapolating from the Past

Extending historical trends: for example, demographic growth

- Partially predictable cycles: Kondratieff long cycles in the economy (Sterman 1985) and long term coupling of finance and technology (Perez 2007)
- predetermined elements which deeply determine emerging events (Wack 1985)

Potential in the Now

- causal layered analysis is a way to categorise different views of and concerns about the futures, and then to use them to help groups think about the futures far more effectively than they could by using any one of the 'layers' alone, as most theory/methods do. (Inayatullah 2004)
- structural simulation, including gaming and micro-worlds which help prepare organisations and individuals for alternative futures by bringing these futures to life interactively so they are imagined more vividly than would otherwise be possible. (Morecroft 2007)

Future Influencing the Present

- retro causality is a concept that features in quantum physics, theoretical biology and psychology in which the future is considered in some way to exist and that it can influence the present. (Benn 2011)
- repeating cycles or waves such as long-run technological surges (Perez 2007)

2 Stepping Beyond Simple Causality

From a strategic perspective, our interest in the future is to anticipate it sufficiently to take advantage of opportunities and be better able to avoid threats. At this point an excursion into systems thinking related to anticipation and purpose throws some light on the underlying assumptions of the conventional view of linear time. Two views of systems are examined. Firstly the concept of anticipatory systems and secondly the notion of teleogenic or goal creating systems.

Robert Rosen articulates the notion of anticipatory systems. He is intrigued by the incompatibility of living systems with classical causality.

> "I was amazed by the amount of anticipatory behavior observed at all levels of the organization of living systems [...] systems that behave as true anticipatory systems, systems in which the present state changes according to future states, violate the law of classical causality according to which changes depend solely on past or present causes. We try to explain this behavior with theories and models that exclude any possibility of anticipation. Without exception, all the theories and biological models are classical in the sense that they only seek causes in the past or present." (Rosen 1985)

One way of describing anticipatory systems is that they have a modelling function which is able to carry out time path mapping faster than the unfolding of real-time. The impact of the output of this internal modelling on the behaviour of the system is not to be confused with feedback, which is information about deviation or error from a set norm. In contrast, information from anticipated future states is essentially a *feedforward* process. Anticipation implies deciding what to do now in terms of what is perceived to be the consequence of that action at some later time than the immediate now. (Louie 2010) Feed forward requires the system to have the capacity to model the world in such a way as to estimate future developments. 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. (Conant Ashby 1970)

Poli (2010) points out that anticipation implies a shift in the paradigm of causality. Husserl (1991) described anticipation as a component of the specious present (that is the time duration of one's perceptions) in which what is given is surrounded by a double halo comprising what has happened and what is going to happen. Bloch (1995) takes this further with the point that an ontological category makes sense only if the entities are categorically open, meaning that some of their aspects are still hidden and latent. The concept of latency or potential is a crucial component of the elaboration of the present moment later in this paper. 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.

These considerations also occur in theoretical physics. Bohm (2010 p.85) considered views such as a time ordered series (one event after another) and space ordered separations (simple distance between objects) are inadequate as explanations of what is going on, especially at the quantum level.

> "A new notion of order is involved here, which we call the implicate order (from the Latin root meaning 'to unfold' or 'to fold inward'). In terms of the implicate order one may say that everything is enfolded into everything. This contrasts with the order now dominant in physics in which things are unfolded in the sense that each thing lies only in its own particular region of space (and time) and outside the regions belonging to other things."

In this view the implicate order is latent in the present.

This way of looking at things takes apart the conventional linearity of time's arrow. But this does not go far enough. We need to recognise that anticipation can have the capacity to be reflexive. This means not only looking into the future but also taking into account the consequences of that looking. In other words, to know I am anticipating already may affect my current behaviour and choices. (Poli 2010)

Anticipation also implies purpose. This is clear in human terms but, in terms of theoretical biology, is also a property of life. From a systems thinking perspective Locker and Coulter (1975) attempted to conceptualise this aspect with the notion of teleogenic systems. There are three definitions of system to consider. Firstly, a system which simply pursues a goal which has been set outside the system is called teleonomic. An example is a heat seeking missile. Secondly, a system which can select any from a set of goals which it then pursues is called teleozetic, meaning goal selecting. Thirdly, the system which can not only select and pursue goals but is endowed with the ability to generate new goals may be called teleogenic. Locker and Coulter associate this concept of the latter kind of system with the incorporation of an observer who is not passive but can actively engage in specifying goals for the observer-system.

The basic subsystems of a teleogenic system they propose include a forecaster, an evaluator, a director and an environmentally perceptive capacity. The director component has the capacity to generate new goals. This concept has proved difficult in normal science which eliminates any validity to purpose. However, as we shall see, the intentions and motivations of agents concerned about the future are critical. We need to go beyond normal science to post-normal science in this domain. (Funtowicz and Ravetz 1990)

3 Getting to Grips with Now

An ontology of the present moment needs to get beyond the division of time into past, present and future, and its failure to recognise that our actual experience is in some way tenseless. In his analysis of this from a philosophical perspective, Mozersky (2006 p. 441) asserts that there are no elemental properties that distinguish past, present or future. He goes on to affirm that from the perspective of conscious experience there are two aspects we need to consider.

> "First, the present is experientially privileged in that we are only ever capable of experiencing that which occurs in the present.… Secondly, as we interact with the world it appears as if time, in some non-metaphorical sense, passes; what was future becomes present and then passes"

Poli (2011 p. 75) 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. He takes the view that

> "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."

The question that here needs examining is how far the past-present-future distinction can be contained within the present moment. The proposition is that an event which is "immediately passed" is still apprehended and therefore is not simply memory, and how an event coming-to-be is now apprehended is not simply an anticipation or a prediction. This question leads into consideration of what we can call the thick present moment (Poli 2010). A step in the re-framing at this point 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 in some kind of Gestalt manner.

A deeper exploration of the present moment must begin from acknowledging that it is a property of a self, a subjective experience. In this respect it is useful to connect the idea of the present moment with the concept of second order cybernetics. First-order cybernetics is essentially reductionist and follows the rule, as Heinz von Foerster (1995) put it, "in no way shall the observer enter into the observation". The present moment is where we live and so far as we can have any direct perception and sure knowledge, this present moment is all that there is.In sedond order cybernetics the observer and observation are inseperable and the act of observation is in someone'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 is a function of our own consciousness in the present. Bennett (1966 p. 14) 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."

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 objectivity.

Maturana (1995 p. 2) asserts the view that we live a continuous present and that as observers we invent past, present and futures to give account of now. This is a function of our being languaging creatures.

> "We live our existing in language as if language were 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."

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

The distinction between the intellectual constructs we make regarding space, time and future were sharply distinguished from the phenomena of our experience by Bergson. Duration, for Bergson, 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.

> "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 being who was ever the same and ever-changing and word 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 expressed duration in terms of extensity, and succession thus takes the form of a continuous line or chain, the parts of which touch without penetrating one another."
>
> (Bergson 1910 p. 101)

The intuitive step from here is to incorporate the future into the wholeness of the duration together with aspects of pattern and quality or intensity of will.

4 Bennett's Expansion of the Present Moment

Bennett (1966) greatly enriches what I refer to here as the dimensionality of the present moment. Bennett begins from reflection and examination of immediate experience, his starting point being that, in so far 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 seem 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.

4.1 The Structure of the Present Moment

In Figure 1 the oval represents the scope of a given present moment. This represents a boundary between the perceived and the unperceived which is indefinite or "fuzzy". 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. Characterising the present moment is a number of other factors. The present moment 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" where the duration or interval of time is small and the degree of content is small. On the other hand we can characterise it as "thick" where 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.

Figure 1 – The experiential structure of the present moment as the embrace of our awareness.

4.2 Deconstruction and Reconstruction of Dimensionality

All our experience is of what enters the present moment so that the present coming out of the future and going into the past or the future determined by the past driving through the present would seem to be wrong habits of thought. Bennett addressed this through a critique of our habits of thinking about dimensionality, especially those arising from the Cartesian legacy. Instead of dimensions Bennett (1956) called them 'determining conditions' to which every present moment conforms. It is these conditions that we interpret as dimension such as space and time. However, the content of the present moment is far richer or 'thicker' than only space and time.

The boundary state of our present moment is not a closed affair. It is open to the unperceived in various ways. Some of the forms of openness are:

- from here to not-here suggestive of space and separation
- to the established past by way of traces and memories suggestive of time past
- to various degrees of expectation suggesting the future
- to the ordering influence of enduring forms suggesting persistence in time
- to eternal patterns that exert an organising influence suggesting unrevealed potential or latency
- to its own living past suggesting ableness-to-be
- towards its own creative scope and choice suggesting renewal and transformation

The interplay of all the above factors renders the present moment not a calm bubble of awareness but a dynamic and turbulent arena of energy, action and meaning in which there is an unending conflict between the forces of order and disorder. Bennett (1966 p13) described this as 'the war with time'. He sees order being created within the present moment (perpetual renewal) and disorder invading it from without (perpetual perishing). The outward tendency to lose order is associated with our experience of time which relates to entropy and the second law of thermodynamics. However, a counter-balancing process to entropy is synergy, implying the powers of life, intelligence and purpose are engaged in a perpetual struggle to preserve, build up and create order within the present moment. Luigi Fantappie, the theoretical biologist, formulated the basis for syntropy.

> "In 1942 the mathematician Luigi Fantappiè (1901-1955), while working on the mathematical properties of the energy/momentum/mass equation, found that the solution which moves forward in time describes energy that diverges from a past cause and matter which tends towards an homogeneous and random distribution, whereas the solution which moves backwards in time describes energy that converges towards a future cause and matter which tends towards forms of structure, organization and order. Fantappiè discovered that the solution that moves forward in time is governed by the law of entropy (from Greek en = divergent, tropos = trend), whereas the solution that moves backwards in time is governed by a symmetric law which Fantappiè named syntropy (from Greek syn = convergent, tropos = trend). Listing the mathematical properties of the law of syntropy, Fantappiè discovered that they coincide with those of living systems, thus reaching the suggestive hypothesis that life is caused by future causes and only marginally by past causes."
>
> (Di Corpo and Vannini 2011 p. 34)

Thus there are forces associated with time, entropy, probability and causality that perpetually break down order towards reducing the present moment to a random, unstructured chaos. Within the present moment there is a counter process establishing and maintaining a

higher order here and now. This immediate present action is termed by Bennett *coalescence*. The notion that the embrace of a present moment is a function of coalescence could be linked to the notion that teleogenic systems are able to function through coherence.Coherence is the capacity to infer meaningful wholes similar to the view of Parks and Steinberg (1993) that the representation of memory is a holographic function (the whole meaning is distributively encoded). This could be the way in which memory traces are sustained in the present moment. "The capability to recreate – at least in partial form – the totality of an experience from a partial description of the waveform suggest an efficient mechanism for filtering and appropriate signal from the variety of background noise."

If memory in the present moment is holographic then this is also consistent with Bohm's notion of the fundamental holomovement of the implicate to the explicate order. "The movement of enfoldment and unfoldment is universal, while the extended and separate forms that we commonly see in experience are relatively stable and independent pattern, maintained by a constant underlying movement of enfoldment and unfoldment. This latter I called the holomovement." (Bohm 2003 p. 85) The implication here is that the strength, embrace and coherence of our present moment is analogous to an holographic phenomena.

We can further develop Bennett's view of the present moment by the introduction of dynamic ontology as discussed by Petrov (2010). From this perspective the present moment is not conceived of as a static fixed coalescence but a super complexity, the dynamism of which determines its ability for anticipation. Such a view would also need to incorporate a strong process philosophy to account for the internal development of the present moment and the constant flux of things in and out of the present moment. In discussing the requirements for an understanding of super complexity Poli (2010) considers four categories that need to be considered in combination, namely: multiple levels of reality, multiple families of time and space, interactivity, and anticipation.

This provides a basis to review Bennett's key notion that there are indeed different forms of time or to be more accurate, more dimensions or determining conditions than simply space and chronological time, *chronos*. In order to account for the richness of the present moment (as well as a number of other key philosophical ideas in his book *The Dramatic Universe*) he considered that inherent pattern or interconnectedness in wholes, required a fifth dimension he referred to as eternity. The word eternity, however, is often confused with 'a lot of time' which is not the meaning. I prefer the Greek term *aionios* referring to the essential pattern of things, without beginning and without end. But even five dimensions is inadequate to account for the diversity, variation and hazard that reveal themselves in the present moment. Bennett proposed the necessity for a sixth dimension that provided a degree of freedom for selectivity in lower levels of reality, and for choice and will at the level of our human experience. It should be noted that although this sixth dimension can be viewed mathematically as "out there", its primary meaning is second order and assumes a self with discrimination at the core of any present moment. He introduced the Greek term *hyparxis* for this sixth dimension. The conjecture of hyparxis leaves room for non-causal non-deterministic creation. So in summary, this six dimensional framework is three-dimensions of space plus *chronos* (time sequence), *aionios* (inherent timeless pattern); and *hyparxis* (room for creative renewal).

To represent this view of the present moment he used the convention of bracketing space and using its three dimensions to represent chronos, aionios and hyparxis as shown in Figure 2. At the centre is the total set of immediate mental objects that constitute 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 passive forms. The diagonal dimension 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, consistent with the power of vision.

Figure 2 – The dimensional influences on the present moment

The articulation of the present moment concept can now be developed further. Firstly, we can see memory, in its holographic sense, as a device for overcoming separateness and disorder. Memory as an immediate mental object is supplemented by traces that connect the present moment with the larger region that we call the past. Passive forms (buildings, documents and so forth) as enduring objects also connect us with the present moment. Life does not endure as objects. It must be perpetually and instantly renewed in order to maintain its existence. In Fantappie's sense, life is always seeking to privilege choice of higher pattern and the future over degraded forms and the past.

4.3 The Nesting of Present Moments

Poli (2010) points out that "anticipation exhibits a variety of temporal patterns, from micro anticipations embedded in perception to usually longer forms of social anticipation, ranging from seconds to years and decades." The way Bennett described this is that existence is not confined to our own present moment. There are other present moments implying other 'selves' besides that in which we are centred. In fact present moments are nested. A larger present moment can include much of what we regard as past and future from our smaller present moment. Bennett's topology of present moments is depicted in Figure 3.

Figure 3 The Present within the Present.

The present moment is a pattern of actual and latent experiences. The present moment is relative to the particular centre of experience (note again the consistency with second order cybernetics). The latent experiences of the present moment correspond to different states of consciousness as a field of awareness. The large circle represents a centre which has a relatively large consciousness and content, the greater present moment (GPM). There can be greater present moments which include and connect lesser moments. The small circles represent smaller present moments (SPM), occurring on the main time dimension. For any scale of present moment the experience is always now. However, the GPM awareness includes both the future and the past relative to the SPM awareness. Put in more colloquial terms, the GPM experiences the past and the future of the SPM.

This view suggests a reframing of the meaning of, say, time span capacity in decision making. Decisions taken centred in the GPM will sustain greater foresight and greater appreciation of significant history. The point is that this capacity is not just informational but a function of the span of awareness in all the six influences depicted in Figure 2.

4.4 Is the future such that it can influence the present?

Karlsen et al (2010) in discussing a sociological view of the nature and practice of foresight point out that the assumptions that shape foresight work unconsciously in the absence of an ontology of the future that renders these assumptions transparent and open for

questioning. Although their view opens up the question of the nature time in relation to foresight, they restrict excursions into the future as 'mental time travel' thus restricting the future to something only in our minds. They do, however, affirm that time modalities, pasts, presents and futures are simultaneously necessary in the process of creating foresight.

My view of the ontology of the present moment goes further than this and entertains the possibility that in some respects the future **is**, and that it can influence the present. However, we need to be clear that the status of both the present and the future are different from the conventional time line of past, present and future. There are aspects of the future in the dimensions of hyparxis (will) and of aionios (latency) as well as chronos (time). In this alternate view the key framing is a topological one of the containment of different scales of present moment which means that what is present in a larger present moment can be in the future of a smaller present moment. This is reminiscent of the fashion in futures thinking some years ago to talk about "pockets of the future in the present". This notion has pragmatic value in searching for early indicators of change, but in the context of present moment theory may have deeper underpinning significance. The challenge is that this is essentially a second order investigation requiring the participation of the consciousness of the futurist.

Ontology in philosophy has been largely concerned only with an ill-defined instant or with the timeless "eternal now". We need an ontology of all present moments including past and future states. What exists for us is our present moment, and this is different according to the state of our consciousness. The present moment is an interception of the six influences in Figure 2 which range over the existing and actualising worlds to the worlds of will and value which have more degrees of freedom than the basic space-time continuum. In the ordinary way, experience is of that which is now being actualised, namely the content of the present moment with its traces of the past and expectations of the future. Within the personal present moment, freedom is limited by the commitments of the past and latent patterns of potential. These have the effect of turning the present moment into a conditioned state in which the self has little power of choice. It is, however, possible to transcend this conditioning by abandoning attachment to the current content of the present moment and thereby entering a larger present moment with more degrees of freedom. This expansion of the present moment has affinity to Ogilvy's (2011) notion of the 'scenaric stance' discussed later in this paper.

This self-determination of the present moment also provides a bridge to systems thinking through boundary critique. Midgley (2000), for example, points out that conflicts arise from overlapping but not congruent stakeholder concerns. This might also be represented a boundary distinction in the present moments of the conflicting stakeholders. Conciliation may require an expansion to a higher degree of inclusiveness of the other to form nested present moments in a greater present moment. This is inextricable from consideration of conflicting values as well as boundary judgements (Midgely and Pinzon 2011). Relating boundary critique to the notion of the present moment is beyond the scope of this paper but warrants further investigation especially in relation to the question of extending our ways of designing systemic intervention.

My conjecture is that the future in some aspects exists: but it does not exist within a small conditioned present moment. It exists in a greater present moment. Our future is not yet now for us, but it is already present. We cannot say that the future is "in" the future in a linear sense. What we can say is that an event that will occur in our future is already present in a larger present moment.

6 Implications for Futures Practice

Poli's original question "does future studies require a theoretical basis?" takes on stronger meaning if an ontology of the present moment contributes to the reframing of how futures work might be conducted. In this analysis I've come to the conclusion that the future exists but not in the way we normally categorise existence. Poli (2007) has pointed out a whole series of obstructions to getting our thinking straight on these questions.

Some of the more obvious assumptions in futures work that are generally taken for granted, and almost have the status of myths are set out below with a counter statement in Table 1.

Assumption	*Counter-assumption*
we can predict the future	there are unpredictable areas of complexity and emergence
we cannot predict the future	there are some predetermined elements
understanding of the driving forces enables us to anticipate the future	the process of arriving at the future is not linear; it includes dynamic feedback loops and is reflexive
anticipating our biggest issue will enable us to be ready for the future	we now live in a world of actual and potential synchronous failure
the forces are too great for us to affect	complex systems can respond to small nudges

Table 1 – Assumptions and Counter-assumptions in Futures Work

Poli (2010) points out that complex wholes (super complex systems) are irreducible: their fragmentation loses information. Analytical methods fail to work even for individual cases. Since in indecomposable wholes are not entirely understandable from their parts, the manipulation of parts may produce unexpected consequences. (Note the correlation of this with unintended consequences as defined in systems theory).

These new possibilities depend on the practitioner himself or herself being able to exercise a capacity for a kind of consciousness that is better able to spot the unhelpful assumptions behind many of the usual ways of tackling the future and pick up traces from the six dimensions of the present moment (see Figure 2).

In practice this places considerable demands on the practitioner since he or she will have a mentality that frames experience and information in certain set ways. These are termed framing traps (Rossel 2010) which constrict our present moment. The challenge is to develop greater flexibility in entertain different interpretations, even worldviews. There is some value in developing this capability to consider the benefits of an approach termed meta-framing. Meta-framing is the identification of what has made a given frame possible in the first place and how it has been actually produced so as to increase alertness when it is acting as a framing trap. Meta-framing in anticipatory thinking is more likely to be sensitive to possible disruptive shifts in the cultural or paradigmatic sense. Meta-framing may also improve our capacity to deal with wild cards and therefore to increase our resilience. Meta-framing applied in the context of present moment theory would therefore considerably enhance the reflexive component of examining

the present moment in all of its six aspects reflected in figure 2. It may also increase the flexibility of choosing methods to cover the multidimensionality of the present moment.

An example of meta-framing that is becoming more adopted by futurists and strategists is the three horizons perspective that challenges us to interpret the same information field in the present moment in three different ways and allows for a shift in paradigm, thus making it easier to avoid framing traps (Curry and Hodgson 2008). Another example is Ogilvy's (2011) notion of the scenaric stance in which the trap of being caught in either dystopian or utopian scenarios is upframed as entertaining both equally in mind. This places new cognitive demands on the practitioner.

"I have made a case for a new approach to the future, a new attitude toward time. Neither ahistorical like the ancients nor optimistic like progressive modernity, nor pessimistic like the post-modernists, this new approach will hold in mind at once both the high road and the low road, acknowledging the possibility of either, and giving full weight to human will in determining which path we actually take." P20-21

Another meta-framing device might be developed from the present moment theory by tuning up the six aspects of the present moment as an intentional discipline through shared practitioner methods could widen multiple horizons. However, this is unlikely to do much for decision making unless the decision makers themselves recognise that they are not detached from the decision process in a quasi-scientific manner but deeply implicated as described by second order cybernetics. (Hodgson 2010).

Bennett's basic conclusion, reflecting on our present complex of global predicaments, resonating with Ogilvy's, is:

"The individual will has power over existence in the future. We have called this action pattern-creation and we suppose that this is occurring in the present moment which includes both "our" present and "our" future. Will or choice is exercised exclusively in the present moment and its operation is inseparable from such exercise. We can only change the future if we can act in it, and this is only possible if we can bring it within the present moment." (Bennett 1966 p. 57)

The individual present moment is determined by our character, its possibilities and its limitations (Poli 2006). The stream of individual consciousness as the experience of now is somewhat limited compared to what we are learning of the much longer cycles embedded in the world in which we live. Examples would be the impact of climate change, the implications of species extinction, the approach of human demands towards planetary boundaries. Further integration needs to be made between the individual, society and the planetary environment such that the social present moment can greatly extend our time-span of responsibility. Reframing our notions of time and the future may increase our room to manoeuvre on this front. There could well be possible a productive coalescence between strategy, futures studies, systems thinking, visioning and decision making.

Conclusion

In preparing some ground for the development of a more integral theory to back futures thinking and practice I have followed a pathway from the simple assumptions of time's arrow and linear causation to a complex notion of the present moment. This pathway also traces a shift from epistemology of how we might *know* the future to the ontological question of what *is* the future.

In the futures field there are many approaches that assume a linear nature of time. These can range from various types of prediction through to the dominant use of the concept of driving forces in creating scenarios of the future. Linearity becomes more sophisticated when the notion of cycles are introduced. This is particularly evident in economics. Such cycles become more complex and can lead to exponentials, explosions and bubbles. Feedback has entered the interpretation and leads to the concept of trend breaks or tipping points. The behaviour of the players in the market is also driven by the players perception of each other's playing.

A transition step in the pathway is to acknowledge the importance of anticipatory systems in which such a system incorporates in some way a model of the anticipated future that prompts action not based entirely on the past. We have moved from feedback to feedforward. The notion of acting from signals of anticipation moves us from driving in the rear-view mirror to working out what lies behind the windscreen. Once we incorporate human agency, simply having a set of scenarios is inadequate, especially if the background approach is biased towards dystopia or utopia. Ogilvy (2011) introduces us to the idea of the 'scenaric stance' in which we, as he puts it, entertain both heaven and hell in equal measure and reserve the capacity of direction and choice in the face of that.

The implication of this step is that we are now dealing with an agent, the decision maker, who can be purposeful, intelligent and creative. Miller (2011) points out that this is a stance which acknowledges our need to entertain unknown, creative possibilities and seek multi--criteria outcomes. At this point we cannot go further if we avoid the ontological questions. Bergson (1910) provides us with a philosophy that separates the direct experience of time and space from the manner in which we describe it intellectually. We are now also in the domain of second order cybernetics.

Poli goes further to affirm that we need to enlarge our notions of dimensionality and consider an ontology of the future. At this point I introduce the further step of considering the little-known work of Bennett (1966) on articulating a powerful notion of the present moment. I consider this to be an interesting and fruitful framing for both futures thinking and systems thinking. In this paper I have dealt with the former; the latter will be the subject of further work. The essence of this view of the present moment is that in our experience of now, the so-called flow of time is only one of three major determining conditions of the future. We must also include the aspect of latency, pattern of potential or in my more technical language aionios. We must also include the aspect of commitment and freedom to choose, which also allows for the creation of possibilities, and which is referred to as hyparxis. In summary, the future is contained in an emerging present moment determined by chronos, aionios and hyparxis.

Lest the reader considers the theorising of an ontology of the present moment as being far too abstract for practitioners in the 'real' world, I point out that there are implications for the way we go about strategic decision-making. It is my view that an ontology of the present moment can be a foundation for improving certain aspects of practical futures work, especially the capacity of both futurist and decision maker to enrich and expand their personal 'present moment'. This also is the subject of further research beyond the scope of this paper.

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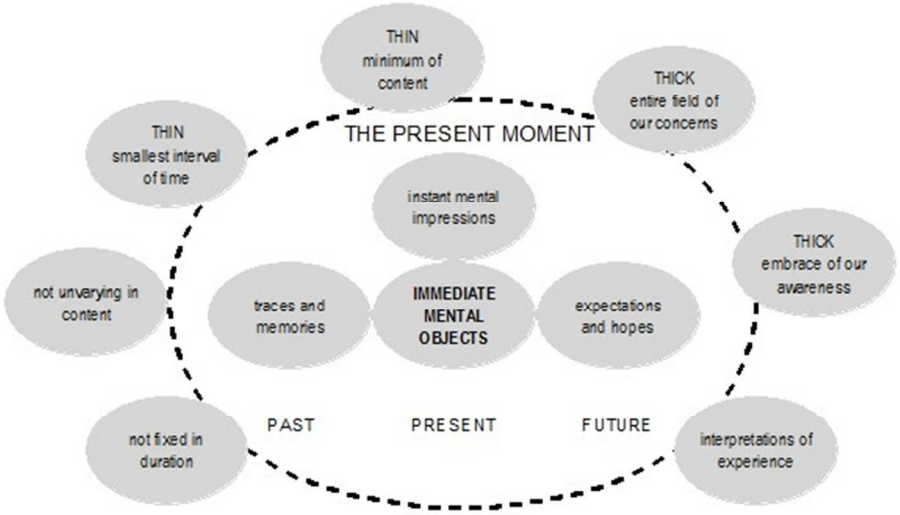

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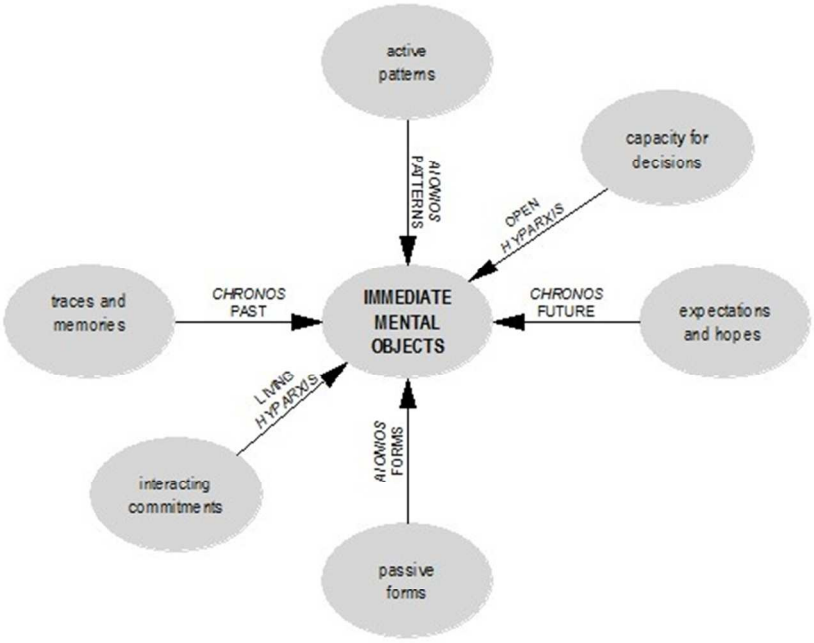

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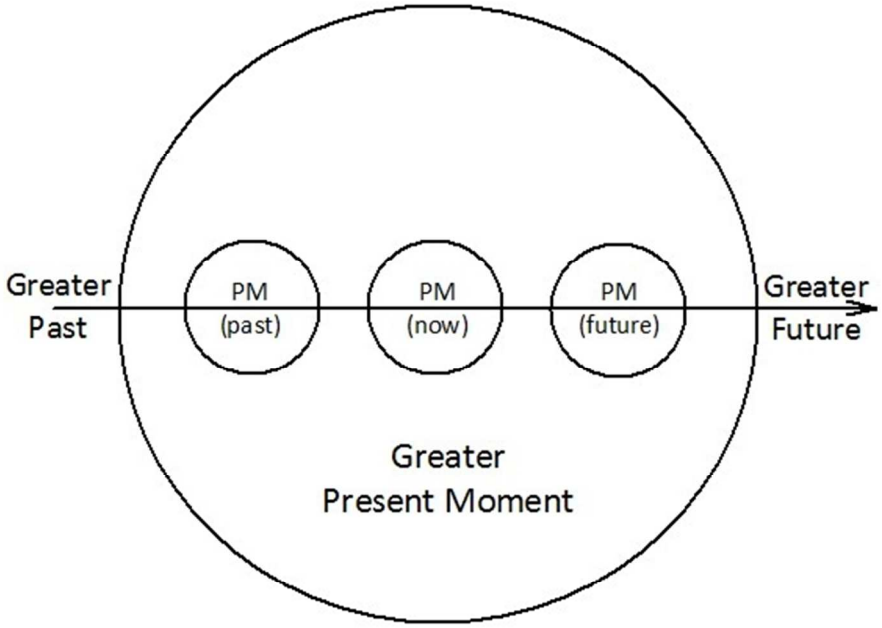

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Towards an Ontology of the Present Moment

Author's Responses (15th October 2012)

Reviewer(s)' Comments to Author:
Reviewer: 1

Recommendation: Minor Revision

Comments:
Detailed comments are in the attached PDF and in the comments made above as part of the review. A rewrite, paying attention to elaborating/clarifying and linking would go a long way. Also taking into consideration the efforts to address these questions by: Miller; Ogilvy; De Landa; and Bergson would fill out the current and historical aspects of the analysis. Perhaps also a look at FuMee, which has been an active process around the Ontology of Anticipatory Systems.

The paper has been lightly rewritten with attention to the flow of argumentation and linking points. There should be a better thread through the beads now! Recent contributions by Miller, Ogilvy, and Karlsen have been studies and referenced, some of their key points folded into the argument strengthening it. Aspects of the philosophical position of Bergson have used to help frame the distinction between the experiential and the intellectual treatment of time.

Additional Questions:
1. Originality: Does the paper contain new and significant information adequate to justify publication?: Yes. The paper offers new insights.

2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: A few references could help the author to clarify and connect. One is the recent articles in Foresight - Riel Miller, Being Without Existing, Foresight Vol. 13, No. 3, Aug. 2011 and in the same issue Jay Ogilvy, Facing the Fold. Another useful source for clarifying and connecting the ideas in this article is in Manuel De Landa's work on assemblages - see A New Philosophy of Society. Lastly, it might be worth connecting up to Henri Bergson's work on novelty.

These references have been integrated except De Landa, largely due to expansion of the length of the paper. Ogilvy's 'scenaric stance' and Miller's requirement for entertaining the unknown and the creative are particularly helpful. I have ordered Bergson's book on the creative mond.

3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: The article is a bit confusing and at times it is difficult for the reader to connect the arguments. The basic organizational structure seems fine but helping the reader to know where the author is going and why the author moves from one section to the next needs to be addressed prior to publication.

I hope the linking pieces and interpolations now mke the article flow and connect better. O certainly has the same experience as the reviewer when a reread it and so worked on that. In particular I have written a new Conclusion that summarises the structure and flow of the hypothesis which I hope will coalesce things for the reader.

4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The conclusions is underdeveloped and doesn't fully reflect the importance of an ontological approach for action. This may be because the author focuses too much on the actual decision as opposed to the conditions that enable the decision.

Hopefully the addition of a focused and distilled conclusion has addressed this deficiency.

5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: There are a number of implications for research and society described in the article. As noted above clarification would help.

I have added some pointers to future work that I hope to accomplish, some with Prof Gerald Midgley, as part of my Ph.D. research.

6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The paper is a bit uneven in writing style and explantory flow. This can be easily addressed by working through the entire text again - elaborating and/or linking where necessary.

This is what I have done, hopefully with some success.

Date Sent: 02-Oct-2012

Towards an Ontology of the Present Moment

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Structured Abstract:

Purpose: The aim of this paper is to propose that conceptions of time and future that are currently in use restrict the possibilities for framing decision making. By privileging the notion of present moment over that of linear time a more comprehensive framing of what it means to consider what influences our judgements. The ontology of the present moment provides a theoretical context for knowing what we can of the future in a more comprehensive way.

Methodology: A review of ways of knowing the future that extends beyond linear assumptions of time leads to consideration of anticipatory systems and of the relationship between purpose and causality. It leads further into conjecture that the present moment is more ontologically fundamental than what we customarily refer to as past, present and future.

Findings: On this foundation, examination of experience of now reveals a multidimensionality which can include retrocausality, the possibility of the future influencing the present and the importance of latent patterning in determining events.

Research Implications: The notion of the present moment has much in common with second order cybernetics and indicates a possible way of bringing systems thinking, especially boundary critique, to futures thinking and strategic decision making**.**

Practical Implications: Although basically a theoretical paper, the framework does suggest possibilities for redesigning futures practice through using the present moment as a meta-framing critique technique to reveal more clearly underlying assumptions in both futures studies and systems thinking.

Originality/Value: In the context of a world where serious inability to see what it coming is pervasive in management and governance, a fresh look at fundamental assumptions may reveal flawed decision thinking and indicate ways of improvement.

Keywords: present moment, causality, anticipatory systems, multi-dimensionality, metaframing
Article Classification: Research paper

Towards and Ontology of the Present Moment

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1 Dealing with the Future

Picking up the theme of this special edition, this paper investigates the possibility of a different way of framing the future with implications for how we practice future studies, whether it be in the academic sphere or in professional practice. The main focus of this paper is on framing the ontology of the future as the ontology of the present moment but begins with examining the question "what are the different ways that we claim to know the future?" This is the epistemological view which reaches certain limits to deal with reflectivity, purpose and creativity. Moving on from there an ontological view is developed leading to the proposition that the present moment is more fundamental than time in terms of the conventional assumptions of the nature of past, present, and future and 'time's arrow'. This alternative viewpoint seeks to change our way of interpreting and perceiving the nature of the future, how it might be anticipated, and even how it may be influencing the present in ways that our conventional thinking has not been able to grasp.

In conventional terms, we "know" the future in three basic ways. Firstly, we imagine that things which have happened in the past will in some way continue and repeat themselves in the future. Essentially this is the world of extrapolation and prediction. It assumes a world largely determined by linear cause and effect. Secondly, we observe aspects of a current complex situation, perhaps recognising a pattern of relationships, and assume that the pattern will continue. There may be scope for a variation in the pattern but the general shape of the future will be determined by it. Thirdly, and unusually, we may adopt a mental orientation that in some sense the future, or some critical aspect of it, already **is** and is in some way influencing the present. In strict professional quarters this view is considered outside authentic discipline but shows up in popular culture as notions of precognition, divinations and even prophecy.

The various tools and techniques of futures studies and strategic foresight adopt these different perspectives, albeit usually implicitly. For example, the notion of linear time is a dominant assumption behind techniques of extrapolation, whether algebraic or statistical. If these assumptions are not rendered explicit then it becomes difficult to develop both an underpinning theory for futures work and also difficult to construct a consistent critique. Further on in the paper these assumptions will be described and discussed in more detail.

There is a whole language associated with futures thinking which can give us some clue to what is needed in establishing a more robust ontology of the future. Viewed from the perspective of a decision maker there are a number of keywords that imply a way of looking at the future and at what it means to the concerns of the decision maker. In conversation about strategic issues these words keep cropping up as possible tools to understand better what the choice is, and what the context of that choice is. They include:

Predict - framing the future in a quasi known state

Foretell - being sufficiently informed to see the inevitable, even if unusual

Anticipate - recognising what needs to be ready ahead of time to secure a robust decision

Simulate - rehearsing a gaming situation that models and reveals a future state

Design - recognising that vision and initiative, can bring about a different future from a current trajectory

Create - having creative power combined with enterprise to bring about a desired future

As a sample of the kinds of words and concepts that come up in applied futures work, these each reveal a different set of background assumptions about the nature of the future, the nature of the present and the nature of the past. A developed ontological view of the future might well give us clearer criteria as to which of these could actually deliver good results depending on intention and circumstances. The hypothesis in this paper is that we need to shift our centre of attention from the future to the *present moment* to gain a different perspective on the future. Most futures practice is concerned in some way with knowing the future better than if that work is not done. Knowledge of the future is not an exact science in the normal sense; it has no data from the future to measure. But there is an epistemology for the future that needs reviewing to provide the base for stepping into ontology.

Millett (2011 p. 4) summarises five principles that he regards as basic to future studies and futures practice. They are:

"1 The future will be some unknown combination of continuity and change.

2 The future can be anticipated with varying degrees of uncertainty depending upon conditions.

3 Futuring and visioning are different but complementary perspectives of the future.

4 The best forecasts and plans are methodically generated and provide well considered expectations for the future.

5 There is no such thing as an immutable forecast or plan for an immutable future. Forecasts and plans must be continuously monitored, evaluated, and revised according to new data and conditions in order to provide real-time frameworks for making long-term decisions and strategies."

In the above principles there are a number of implicit assumptions about the nature of time and about the nature of anticipation or forecasting. I will begin by dividing these in the conventional framing of past, present and future. Within each of these three categories there are frequently applied methods that give structure to the futures discipline.

Extrapolating from the Past

Extending historical trends: for example, demographic growth

- Partially predictable cycles: Kondratieff long cycles in the economy (Sterman 1985) and long term coupling of finance and technology (Perez 2007)
- predetermined elements which deeply determine emerging events (Wack 1985)

Potential in the Now

- causal layered analysis is a way to categorise different views of and concerns about the futures, and then to use them to help groups think about the futures far more effectively than they could by using any one of the 'layers' alone, as most theory/methods do. (Inayatullah 2004)
- structural simulation, including gaming and micro-worlds which help prepare organisations and individuals for alternative futures by bringing these futures to life interactively so they are imagined more vividly than would otherwise be possible. (Morecroft 2007)

Future Influencing the Present

- retro causality is a concept that features in quantum physics, theoretical biology and psychology in which the future is considered in some way to exist and that it can influence the present. (Benn 2011)
- repeating cycles or waves such as long-run technological surges (Perez 2007)

2 Stepping Beyond Simple Causality

From a strategic perspective, our interest in the future is to anticipate it sufficiently to take advantage of opportunities and be better able to avoid threats. At this point an excursion into systems thinking related to anticipation and purpose throws some light on the underlying assumptions of the conventional view of linear time. Two views of systems are examined. Firstly the concept of anticipatory systems and secondly the notion of teleogenic or goal creating systems.

Robert Rosen articulates the notion of anticipatory systems. He is intrigued by the incompatibility of living systems with classical causality.

> "I was amazed by the amount of anticipatory behavior observed at all levels of the organization of living systems [...] systems that behave as true anticipatory systems, systems in which the present state changes according to future states, violate the law of classical causality according to which changes depend solely on past or present causes. We try to explain this behavior with theories and models that exclude any possibility of anticipation. Without exception, all the theories and biological models are classical in the sense that they only seek causes in the past or present." (Rosen 1985)

One way of describing anticipatory systems is that they have a modelling function which is able to carry out time path mapping faster than the unfolding of real-time. The impact of the output of this internal modelling on the behaviour of the system is not to be confused with feedback, which is information about deviation or error from a set norm. In contrast, information from anticipated future states is essentially a *feedforward* process. Anticipation implies deciding what to do now in terms of what is perceived to be the consequence of that action at some later time than the immediate now. (Louie 2010) Feed forward requires the system to have the capacity to model the world in such a way as to estimate future developments. 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. (Conant Ashby 1970)

Poli (2010) points out that anticipation implies a shift in the paradigm of causality. Husserl (1991) described anticipation as a component of the specious present (that is the time duration of one's perceptions) in which what is given is surrounded by a double halo comprising what has happened and what is going to happen. Bloch (1995) takes this further with the point that an ontological category makes sense only if the entities are categorically open, meaning that some of their aspects are still hidden and latent. The concept of latency or potential is a crucial component of the elaboration of the present moment later in this paper. 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.

These considerations also occur in theoretical physics. Bohm (2010 p.85) considered views such as a time ordered series (one event after another) and space ordered separations (simple distance between objects) are inadequate as explanations of what is going on, especially at the quantum level.

> "A new notion of order is involved here, which we call the implicate order (from the Latin root meaning 'to unfold' or 'to fold inward'). In terms of the implicate order one may say that everything is enfolded into everything. This contrasts with the order now dominant in physics in which things are unfolded in the sense that each thing lies only in its own particular region of space (and time) and outside the regions belonging to other things."

In this view the implicate order is latent in the present.

This way of looking at things takes apart the conventional linearity of time's arrow. But this does not go far enough. We need to recognise that anticipation can have the capacity to be reflexive. This means not only looking into the future but also taking into account the consequences of that looking. In other words, to know I am anticipating already may affect my current behaviour and choices. (Poli 2010)

Anticipation also implies purpose. This is clear in human terms but, in terms of theoretical biology, is also a property of life. From a systems thinking perspective Locker and Coulter (1975) attempted to conceptualise this aspect with the notion of teleogenic systems. There are three definitions of system to consider. Firstly, a system which simply pursues a goal which has been set outside the system is called teleonomic. An example is a heat seeking missile. Secondly, a system which can select any from a set of goals which it then pursues is called teleozetic, meaning goal selecting. Thirdly, the system which can not only select and pursue goals but is endowed with the ability to generate new goals may be called teleogenic. Locker and Coulter associate this concept of the latter kind of system with the incorporation of an observer who is not passive but can actively engage in specifying goals for the observer-system.

The basic subsystems of a teleogenic system they propose include a forecaster, an evaluator, a director and an environmentally perceptive capacity. The director component has the capacity to generate new goals. This concept has proved difficult in normal science which eliminates any validity to purpose. However, as we shall see, the intentions and motivations of agents concerned about the future are critical. We need to go beyond normal science to post-normal science in this domain. (Funtowicz and Ravetz 1990)

3 Getting to Grips with Now

An ontology of the present moment needs to get beyond the division of time into past, present and future, and its failure to recognise that our actual experience is in some way tenseless. In his analysis of this from a philosophical perspective, Mozersky (2006 p. 441) asserts that there are no elemental properties that distinguish past, present or future. He goes on to affirm that from the perspective of conscious experience there are two aspects we need to consider.

> "First, the present is experientially privileged in that we are only ever capable of experiencing that which occurs in the present.… Secondly, as we interact with the world it appears as if time, in some non-metaphorical sense, passes; what was future becomes present and then passes"

Poli (2011 p. 75) 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. He takes the view that

> "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."

The question that here needs examining is how far the past-present-future distinction can be contained within the present moment. The proposition is that an event which is "immediately passed" is still apprehended and therefore is not simply memory, and how an event coming-to-be is now apprehended is not simply an anticipation or a prediction. This question leads into consideration of what we can call the thick present moment (Poli 2010). A step in the re-framing at this point 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 in some kind of Gestalt manner.

A deeper exploration of the present moment must begin from acknowledging that it is a property of a self, a subjective experience. In this respect it is useful to connect the idea of the present moment with the concept of second order cybernetics. First-order cybernetics is essentially reductionist and follows the rule, as Heinz von Foerster (1995) put it, "in no way shall the observer enter into the observation". The present moment is where we live and so far as we can have any direct perception and sure knowledge, this present moment is all that there is.In sedond order cybernetics the observer and observation are inseperable and the act of observation is in someone'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 is a function of our own consciousness in the present. Bennett (1966 p. 14) 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."

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 objectivity.

Maturana (1995 p. 2) asserts the view that we live a continuous present and that as observers we invent past, present and futures to give account of now. This is a function of our being languaging creatures.

> "We live our existing in language as if language were 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."

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

The distinction between the intellectual constructs we make regarding space, time and future were sharply distinguished from the phenomena of our experience by Bergson. Duration, for Bergson, 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.

> "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 being who was ever the same and ever-changing and word 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 expressed duration in terms of extensity, and succession thus takes the form of a continuous line or chain, the parts of which touch without penetrating one another."
>
> (Bergson 1910 p. 101)

The intuitive step from here is to incorporate the future into the wholeness of the duration together with aspects of pattern and quality or intensity of will.

4 Bennett's Expansion of the Present Moment

Bennett (1966) greatly enriches what I refer to here as the dimensionality of the present moment. Bennett begins from reflection and examination of immediate experience, his starting point being that, in so far 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 seem 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.

4.1 The Structure of the Present Moment

In Figure 1 the oval represents the scope of a given present moment. This represents a boundary between the perceived and the unperceived which is indefinite or "fuzzy". 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. Characterising the present moment is a number of other factors. The present moment 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" where the duration or interval of time is small and the degree of content is small. On the other hand we can characterise it as "thick" where 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.

Figure 1 – The experiential structure of the present moment as the embrace of our awareness.

4.2 Deconstruction and Reconstruction of Dimensionality

All our experience is of what enters the present moment so that the present coming out of the future and going into the past or the future determined by the past driving through the present would seem to be wrong habits of thought. Bennett addressed this through a critique of our habits of thinking about dimensionality, especially those arising from the Cartesian legacy. Instead of dimensions Bennett (1956) called them 'determining conditions' to which every present moment conforms. It is these conditions that we interpret as dimension such as space and time. However, the content of the present moment is far richer or 'thicker' than only space and time.

The boundary state of our present moment is not a closed affair. It is open to the unperceived in various ways. Some of the forms of openness are:

- from here to not-here suggestive of space and separation
- to the established past by way of traces and memories suggestive of time past
- to various degrees of expectation suggesting the future
- to the ordering influence of enduring forms suggesting persistence in time
- to eternal patterns that exert an organising influence suggesting unrevealed potential or latency
- to its own living past suggesting ableness-to-be
- towards its own creative scope and choice suggesting renewal and transformation

The interplay of all the above factors renders the present moment not a calm bubble of awareness but a dynamic and turbulent arena of energy, action and meaning in which there is an unending conflict between the forces of order and disorder. Bennett (1966 p13) described this as 'the war with time'. He sees order being created within the present moment (perpetual renewal) and disorder invading it from without (perpetual perishing). The outward tendency to lose order is associated with our experience of time which relates to entropy and the second law of thermodynamics. However, a counter-balancing process to entropy is synergy, implying the powers of life, intelligence and purpose are engaged in a perpetual struggle to preserve, build up and create order within the present moment. Luigi Fantappie, the theoretical biologist, formulated the basis for syntropy.

> "In 1942 the mathematician Luigi Fantappiè (1901-1955), while working on the mathematical properties of the energy/momentum/mass equation, found that the solution which moves forward in time describes energy that diverges from a past cause and matter which tends towards an homogeneous and random distribution, whereas the solution which moves backwards in time describes energy that converges towards a future cause and matter which tends towards forms of structure, organization and order. Fantappiè discovered that the solution that moves forward in time is governed by the law of entropy (from Greek en = divergent, tropos = trend), whereas the solution that moves backwards in time is governed by a symmetric law which Fantappiè named syntropy (from Greek syn = convergent, tropos = trend). Listing the mathematical properties of the law of syntropy, Fantappiè discovered that they coincide with those of living systems, thus reaching the suggestive hypothesis that life is caused by future causes and only marginally by past causes."
>
> (Di Corpo and Vannini 2011 p. 34)

Thus there are forces associated with time, entropy, probability and causality that perpetually break down order towards reducing the present moment to a random, unstructured chaos. Within the present moment there is a counter process establishing and maintaining a

higher order here and now. This immediate present action is termed by Bennett *coalescence*. The notion that the embrace of a present moment is a function of coalescence could be linked to the notion that teleogenic systems are able to function through coherence.Coherence is the capacity to infer meaningful wholes similar to the view of Parks and Steinberg (1993) that the representation of memory is a holographic function (the whole meaning is distributively encoded). This could be the way in which memory traces are sustained in the present moment. "The capability to recreate – at least in partial form – the totality of an experience from a partial description of the waveform suggest an efficient mechanism for filtering and appropriate signal from the variety of background noise."

If memory in the present moment is holographic then this is also consistent with Bohm's notion of the fundamental holomovement of the implicate to the explicate order. "The movement of enfoldment and unfoldment is universal, while the extended and separate forms that we commonly see in experience are relatively stable and independent pattern, maintained by a constant underlying movement of enfoldment and unfoldment. This latter I called the holomovement." (Bohm 2003 p. 85) The implication here is that the strength, embrace and coherence of our present moment is analogous to an holographic phenomena.

We can further develop Bennett's view of the present moment by the introduction of dynamic ontology as discussed by Petrov (2010). From this perspective the present moment is not conceived of as a static fixed coalescence but a super complexity, the dynamism of which determines its ability for anticipation. Such a view would also need to incorporate a strong process philosophy to account for the internal development of the present moment and the constant flux of things in and out of the present moment. In discussing the requirements for an understanding of super complexity Poli (2010) considers four categories that need to be considered in combination, namely: multiple levels of reality, multiple families of time and space, interactivity, and anticipation.

This provides a basis to review Bennett's key notion that there are indeed different forms of time or to be more accurate, more dimensions or determining conditions than simply space and chronological time, *chronos*. In order to account for the richness of the present moment (as well as a number of other key philosophical ideas in his book *The Dramatic Universe*) he considered that inherent pattern or interconnectedness in wholes, required a fifth dimension he referred to as eternity. The word eternity, however, is often confused with 'a lot of time' which is not the meaning. I prefer the Greek term *aionios* referring to the essential pattern of things, without beginning and without end. But even five dimensions is inadequate to account for the diversity, variation and hazard that reveal themselves in the present moment. Bennett proposed the necessity for a sixth dimension that provided a degree of freedom for selectivity in lower levels of reality, and for choice and will at the level of our human experience. It should be noted that although this sixth dimension can be viewed mathematically as "out there", its primary meaning is second order and assumes a self with discrimination at the core of any present moment. He introduced the Greek term *hyparxis* for this sixth dimension. The conjecture of hyparxis leaves room for non-causal non-deterministic creation. So in summary, this six dimensional framework is three-dimensions of space plus *chronos* (time sequence), *aionios* (inherent timeless pattern); and *hyparxis* (room for creative renewal).

To represent this view of the present moment he used the convention of bracketing space and using its three dimensions to represent chronos, aionios and hyparxis as shown in Figure 2. At the centre is the total set of immediate mental objects that constitute 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 passive forms. The diagonal dimension 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, consistent with the power of vision.

Figure 2 – The dimensional influences on the present moment

The articulation of the present moment concept can now be developed further. Firstly, we can see memory, in its holographic sense, as a device for overcoming separateness and disorder. Memory as an immediate mental object is supplemented by traces that connect the present moment with the larger region that we call the past. Passive forms (buildings, documents and so forth) as enduring objects also connect us with the present moment. Life does not endure as objects. It must be perpetually and instantly renewed in order to maintain its existence. In Fantappie's sense, life is always seeking to privilege choice of higher pattern and the future over degraded forms and the past.

4.3 The Nesting of Present Moments

Poli (2010) points out that "anticipation exhibits a variety of temporal patterns, from micro anticipations embedded in perception to usually longer forms of social anticipation, ranging from seconds to years and decades." The way Bennett described this is that existence is not confined to our own present moment. There are other present moments implying other 'selves' besides that in which we are centred. In fact present moments are nested. A larger present moment can include much of what we regard as past and future from our smaller present moment. Bennett's topology of present moments is depicted in Figure 3.

Figure 3 The Present within the Present.

The present moment is a pattern of actual and latent experiences. The present moment is relative to the particular centre of experience (note again the consistency with second order cybernetics). The latent experiences of the present moment correspond to different states of consciousness as a field of awareness. The large circle represents a centre which has a relatively large consciousness and content, the greater present moment (GPM). There can be greater present moments which include and connect lesser moments. The small circles represent smaller present moments (SPM), occurring on the main time dimension. For any scale of present moment the experience is always now. However, the GPM awareness includes both the future and the past relative to the SPM awareness. Put in more colloquial terms, the GPM experiences the past and the future of the SPM.

This view suggests a reframing of the meaning of, say, time span capacity in decision making. Decisions taken centred in the GPM will sustain greater foresight and greater appreciation of significant history. The point is that this capacity is not just informational but a function of the span of awareness in all the six influences depicted in Figure 2.

4.4 Is the future such that it can influence the present?

Karlsen et al (2010) in discussing a sociological view of the nature and practice of foresight point out that the assumptions that shape foresight work unconsciously in the absence of an ontology of the future that renders these assumptions transparent and open for

questioning. Although their view opens up the question of the nature time in relation to foresight, they restrict excursions into the future as 'mental time travel' thus restricting the future to something only in our minds. They do, however, affirm that time modalities, pasts, presents and futures are simultaneously necessary in the process of creating foresight.

My view of the ontology of the present moment goes further than this and entertains the possibility that in some respects the future **is**, and that it can influence the present. However, we need to be clear that the status of both the present and the future are different from the conventional time line of past, present and future. There are aspects of the future in the dimensions of hyparxis (will) and of aionios (latency) as well as chronos (time). In this alternate view the key framing is a topological one of the containment of different scales of present moment which means that what is present in a larger present moment can be in the future of a smaller present moment. This is reminiscent of the fashion in futures thinking some years ago to talk about "pockets of the future in the present". This notion has pragmatic value in searching for early indicators of change, but in the context of present moment theory may have deeper underpinning significance. The challenge is that this is essentially a second order investigation requiring the participation of the consciousness of the futurist.

Ontology in philosophy has been largely concerned only with an ill-defined instant or with the timeless "eternal now". We need an ontology of all present moments including past and future states. What exists for us is our present moment, and this is different according to the state of our consciousness. The present moment is an interception of the six influences in Figure 2 which range over the existing and actualising worlds to the worlds of will and value which have more degrees of freedom than the basic space-time continuum. In the ordinary way, experience is of that which is now being actualised, namely the content of the present moment with its traces of the past and expectations of the future. Within the personal present moment, freedom is limited by the commitments of the past and latent patterns of potential. These have the effect of turning the present moment into a conditioned state in which the self has little power of choice. It is, however, possible to transcend this conditioning by abandoning attachment to the current content of the present moment and thereby entering a larger present moment with more degrees of freedom. This expansion of the present moment has affinity to Ogilvy's (2011) notion of the 'scenaric stance' discussed later in this paper.

This self-determination of the present moment also provides a bridge to systems thinking through boundary critique. Midgley (2000), for example, points out that conflicts arise from overlapping but not congruent stakeholder concerns. This might also be represented a boundary distinction in the present moments of the conflicting stakeholders. Conciliation may require an expansion to a higher degree of inclusiveness of the other to form nested present moments in a greater present moment. This is inextricable from consideration of conflicting values as well as boundary judgements (Midgely and Pinzon 2011). Relating boundary critique to the notion of the present moment is beyond the scope of this paper but warrants further investigation especially in relation to the question of extending our ways of designing systemic intervention.

My conjecture is that the future in some aspects exists: but it does not exist within a small conditioned present moment. It exists in a greater present moment. Our future is not yet now for us, but it is already present. We cannot say that the future is "in" the future in a linear sense. What we can say is that an event that will occur in our future is already present in a larger present moment.

6 Implications for Futures Practice

Poli's original question "does future studies require a theoretical basis?" takes on stronger meaning if an ontology of the present moment contributes to the reframing of how futures work might be conducted. In this analysis I've come to the conclusion that the future exists but not in the way we normally categorise existence. Poli (2007) has pointed out a whole series of obstructions to getting our thinking straight on these questions.

Some of the more obvious assumptions in futures work that are generally taken for granted, and almost have the status of myths are set out below with a counter statement in Table 1.

Assumption	*Counter-assumption*
we can predict the future	there are unpredictable areas of complexity and emergence
we cannot predict the future	there are some predetermined elements
understanding of the driving forces enables us to anticipate the future	the process of arriving at the future is not linear; it includes dynamic feedback loops and is reflexive
anticipating our biggest issue will enable us to be ready for the future	we now live in a world of actual and potential synchronous failure
the forces are too great for us to affect	complex systems can respond to small nudges

Table 1 – Assumptions and Counter-assumptions in Futures Work

Poli (2010) points out that complex wholes (super complex systems) are irreducible: their fragmentation loses information. Analytical methods fail to work even for individual cases. Since in indecomposable wholes are not entirely understandable from their parts, the manipulation of parts may produce unexpected consequences. (Note the correlation of this with unintended consequences as defined in systems theory).

These new possibilities depend on the practitioner himself or herself being able to exercise a capacity for a kind of consciousness that is better able to spot the unhelpful assumptions behind many of the usual ways of tackling the future and pick up traces from the six dimensions of the present moment (see Figure 2).

In practice this places considerable demands on the practitioner since he or she will have a mentality that frames experience and information in certain set ways. These are termed framing traps (Rossel 2010) which constrict our present moment. The challenge is to develop greater flexibility in entertain different interpretations, even worldviews. There is some value in developing this capability to consider the benefits of an approach termed meta-framing. Meta-framing is the identification of what has made a given frame possible in the first place and how it has been actually produced so as to increase alertness when it is acting as a framing trap. Meta-framing in anticipatory thinking is more likely to be sensitive to possible disruptive shifts in the cultural or paradigmatic sense. Meta-framing may also improve our capacity to deal with wild cards and therefore to increase our resilience. Meta-framing applied in the context of present moment theory would therefore considerably enhance the reflexive component of examining

the present moment in all of its six aspects reflected in figure 2. It may also increase the flexibility of choosing methods to cover the multidimensionality of the present moment.

An example of meta-framing that is becoming more adopted by futurists and strategists is the three horizons perspective that challenges us to interpret the same information field in the present moment in three different ways and allows for a shift in paradigm, thus making it easier to avoid framing traps (Curry and Hodgson 2008). Another example is Ogilvy's (2011) notion of the scenaric stance in which the trap of being caught in either dystopian or utopian scenarios is upframed as entertaining both equally in mind. This places new cognitive demands on the practitioner.

"I have made a case for a new approach to the future, a new attitude toward time. Neither ahistorical like the ancients nor optimistic like progressive modernity, nor pessimistic like the post-modernists, this new approach will hold in mind at once both the high road and the low road, acknowledging the possibility of either, and giving full weight to human will in determining which path we actually take." P20-21

Another meta-framing device might be developed from the present moment theory by tuning up the six aspects of the present moment as an intentional discipline through shared practitioner methods could widen multiple horizons. However, this is unlikely to do much for decision making unless the decision makers themselves recognise that they are not detached from the decision process in a quasi-scientific manner but deeply implicated as described by second order cybernetics. (Hodgson 2010).

Bennett's basic conclusion, reflecting on our present complex of global predicaments, resonating with Ogilvy's, is:

"The individual will has power over existence in the future. We have called this action pattern-creation and we suppose that this is occurring in the present moment which includes both "our" present and "our" future. Will or choice is exercised exclusively in the present moment and its operation is inseparable from such exercise. We can only change the future if we can act in it, and this is only possible if we can bring it within the present moment." (Bennett 1966 p. 57)

The individual present moment is determined by our character, its possibilities and its limitations (Poli 2006). The stream of individual consciousness as the experience of now is somewhat limited compared to what we are learning of the much longer cycles embedded in the world in which we live. Examples would be the impact of climate change, the implications of species extinction, the approach of human demands towards planetary boundaries. Further integration needs to be made between the individual, society and the planetary environment such that the social present moment can greatly extend our time-span of responsibility. Reframing our notions of time and the future may increase our room to manoeuvre on this front. There could well be possible a productive coalescence between strategy, futures studies, systems thinking, visioning and decision making.

Conclusion

In preparing some ground for the development of a more integral theory to back futures thinking and practice I have followed a pathway from the simple assumptions of time's arrow and linear causation to a complex notion of the present moment. This pathway also traces a shift from epistemology of how we might *know* the future to the ontological question of what *is* the future.

In the futures field there are many approaches that assume a linear nature of time. These can range from various types of prediction through to the dominant use of the concept of driving forces in creating scenarios of the future. Linearity becomes more sophisticated when the notion of cycles are introduced. This is particularly evident in economics. Such cycles become more complex and can lead to exponentials, explosions and bubbles. Feedback has entered the interpretation and leads to the concept of trend breaks or tipping points. The behaviour of the players in the market is also driven by the players perception of each other's playing.

A transition step in the pathway is to acknowledge the importance of anticipatory systems in which such a system incorporates in some way a model of the anticipated future that prompts action not based entirely on the past. We have moved from feedback to feedforward. The notion of acting from signals of anticipation moves us from driving in the rear-view mirror to working out what lies behind the windscreen. Once we incorporate human agency, simply having a set of scenarios is inadequate, especially if the background approach is biased towards dystopia or utopia. Ogilvy (2011) introduces us to the idea of the 'scenaric stance' in which we, as he puts it, entertain both heaven and hell in equal measure and reserve the capacity of direction and choice in the face of that.

The implication of this step is that we are now dealing with an agent, the decision maker, who can be purposeful, intelligent and creative. Miller (2011) points out that this is a stance which acknowledges our need to entertain unknown, creative possibilities and seek multi--criteria outcomes. At this point we cannot go further if we avoid the ontological questions. Bergson (1910) provides us with a philosophy that separates the direct experience of time and space from the manner in which we describe it intellectually. We are now also in the domain of second order cybernetics.

Poli goes further to affirm that we need to enlarge our notions of dimensionality and consider an ontology of the future. At this point I introduce the further step of considering the little-known work of Bennett (1966) on articulating a powerful notion of the present moment. I consider this to be an interesting and fruitful framing for both futures thinking and systems thinking. In this paper I have dealt with the former; the latter will be the subject of further work. The essence of this view of the present moment is that in our experience of now, the so-called flow of time is only one of three major determining conditions of the future. We must also include the aspect of latency, pattern of potential or in my more technical language aionios. We must also include the aspect of commitment and freedom to choose, which also allows for the creation of possibilities, and which is referred to as hyparxis. In summary, the future is contained in an emerging present moment determined by chronos, aionios and hyparxis.

Lest the reader considers the theorising of an ontology of the present moment as being far too abstract for practitioners in the 'real' world, I point out that there are implications for the way we go about strategic decision-making. It is my view that an ontology of the present moment can be a foundation for improving certain aspects of practical futures work, especially the capacity of both futurist and decision maker to enrich and expand their personal 'present moment'. This also is the subject of further research beyond the scope of this paper.

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