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FORESIGHT AND THE SEVEN DIMENSIONS OF EXPERIENCE

ANTHONY HODGSON
University of Dundee, Dundee, UK

How we understand and treat time says a great deal about our worldview. The major global crises we are enmeshed in are largely the result of dominant worldviews that do not correspond sufficiently with the realities of how the cosmos works. Although what humanity has learned through science has some areas of correspondence it does not have the requisite variety to correlate with the complexities unleashed in the Anthropocene. This is clear from the feedback that the world system is giving us in areas of, for example, climate change, species extinction, mental stress, and endemic violence. In this article it is proposed that the resulting deficiency of foresight occurs because our current notions of time and our resulting way of organizing and interpreting our world that follows from that seriously restricts our understanding where it is most needed. This article introduces an alternative view of time as only one of seven dimensions of our lived experience and opens more scope for practical as well as theoretical understanding.

KEYWORDS: Consciousness, dimensions, experience, future, present moment, second-order, time.

TOWARD A DIFFERENT UNDERSTANDING OF SPACE AND TIME

My aim here is to strip out our dominant assumptions about the nature of time, whether scientific or esoteric, so as to make mental space for considering some aspects of our experience that the prevailing view tends to tune out. This requires us to challenge assumptions that underpin everything from the reductionist science paradigm to the mental models of political leaders, from patterns of governance to patterns of spirituality. I believe that to tackle this question of time we need to draw on disciplines and traditions that are conventionally kept separate and even at war with each other. I also believe that we have to be open to how understanding is experienced in other cultures.

The main focus, however, is foresight. One way of describing the inadequacy of dominant worldviews is that they suffer from a deficit of foresight. The

Address correspondence to Anthony Hodgson, Trustee, H3Uni, Honorary Research Fellow, University of Dundee, Dundee DD1 4HN, UK. E-mail: anthony.hodgson@h3uni.org

domination in our mentality of linear time means that we restrict the information we have to guide our lives to that from the past. We are driving into unknown territory looking only in the rear view mirror. Much of our attempt to see ahead is extrapolating the paths we have already followed in the hope they continue with perhaps a little wavering to left or right. If we crash we tend to shrug our shoulders and proceed ahead with a blindfold or by striving to improve that much easier activity called hindsight; polishing the rear view mirror.

There are many clues that life works in many different ways than simply through time's arrow but such experiences are treated as anomalies, marginalized or dismissed as psychological aberration. I shall introduce a multidimensional framework that offers the prospect of changing the way we understand the potential of foresight, or as it has been called, future consciousness (Sharpe, 2013). This requires nothing less than a revolution in our worldview (Hodgson, 2017).

EXPERIENCE IS PRIOR TO DIMENSIONALITY

Our experience is far too rich to be shoe-horned intellectually into a simple dimensionality of just space and time and simply described by Cartesian co-ordinates. Hinton (2010) as far ago as the late 19th century pioneered some challenging visualizations of four spatial dimensions. It is still tempting, even in the Einsteinian era, to jump directly to some form of co-ordinate geometry as the language of dimensionality. There are several accounts that use the device of saying that the next higher dimension is orthogonal to the previous dimension, implying all dimensions as space-like.[1] In my view this falls into the trap of projecting an analogy of Euclidean geometry that does not take into account qualitative difference.

Despite its yielding many new insights into the nature of the universe, even the sophistication of relativity theory that postulates a space–time continuum is insufficient. Admittedly, contemporary theoretical physics has broken out of this constraint with mathematical postulates of 9, 10, 11, 12, even 13 dimensions. These additional dimensions, however, are highly abstract mathematical concepts and are of little help to the intelligent but non-mathematical mind to make sense of our experience the way we experience it. As Henri Bergson (1992) points out, from the point of view of our direct psychological experience of time as duration, treating time as simply a fourth spatial dimension does not illuminate that experience.

> Numerous are the philosophers who have felt how powerless conceptual thought is to reach the core of the mind. … They did not see that intellectualized time is space, that the intelligence works on the phantom of duration, not on duration itself, that the elimination of time is habitual, normal, commonplace act of our understanding, that the relativity of our knowledge of the mind is a direct result of this fact, and that hence, to pass from intellection to vision, from the relative to the absolute, is not a question of getting outside of time (we are already there); on the contrary, one must get back into duration and recapture reality in the very mobility which is its essence. (pp. 30–31)

My approach proceeds first from qualities of experience that ground the dimensionality in perception that occurs in every awake human mind; perception, however, that is not usually characterized clearly and understood for its implications.

In the spirit of Bergson this article draws strongly on the insights of the mathematician philosopher Bennett (1966), whose research in the middle of the last century was based on a lifetime of seeking ways to reconcile his actual experiences of what, in modern terms, we would describe as altered states of consciousness, with the worldview promoted by the contemporary physics of his time. This led him to challenge the limitations of Einsteinian relativity and eventually move on from mathematical physics to considering the phenomenology associated with dimensionality. He introduces his treatment of the *present moment* with the following observation:

> We live in the present moment. So far as we can have any direct perception and sure knowledge, this present moment is all that there is. Because its content changes, we tend to think of it as impermanent, a state of "perpetual perishing" as Locke expressed it. But it is also in a state of perpetual renewal and neither perishing nor renewal are so certain as the immediate experience of the present as always here and now. (Bennett, 1966, p. 13)

The temptation is to rush immediately into attributing the dimensions of the present moment according to the scientific, technological, and physical notions we have created around ourselves. Bennett was more cautious and followed the phenomenological principle of seeking understanding "upstream" from the immediate scientific convention. He interpolated a step in the recognition of dimensionality that he named *determining conditions*, which derive from what he called "framework laws" that mediate between the abstract and the concrete. His meaning is explained in this passage.

> Framework is the form in which we experience phenomena. Phenomena have spatial arrangement and they succeed each other in time. Space and time are framework properties; they are neither behaviour nor existence. There are, however, universal regularities that are not bare configuration and successiveness. Time itself is also conservative and irreversible. Space has determinations of size and direction. These are not the only kinds of universal determinations to which all phenomena are subject. … The chief characteristic of these conditions is that experience never fails to conform to them—at any rate, upon the level of phenomena accessible to our ordinary states of consciousness. (Bennett, 1956, p. 136)

We can take the notion of universal determinations and relate it to direct experience. I suggest to the reader that, having read through the next passage, he or she returns to the first point, reading it again and treating the passage as an exercise in perception and reflection. The task is to register in your own consciousness the presence in your own personal "here and now experience" these characteristics.

1. Location—there is "somewhere here"

TABLE 1.
Caption the seven dimensions.

Space-like dimensions	Time-like dimensions	Transcendent dimension
Location	Succession	Singularity; Nonlocality
Separations	Potential	
Rotation	Manifestation	

2. Separation—there is "somewhere else"
3. Rotation—there are multiple perspectives on "somewhere" and "somewhere else"
4. Succession—one thing happens after another and before yet another
5. Potential—of many possible things not all happen
6. Manifestation—there are relative strengths of happening
7. Connectivity—things seem linked to each other in mysterious ways

These are the seven aspects of experience that give us a clue as to how to formulate dimensionality in the scheme put forward below. In this article the scheme has at its center the concept of "the present moment," which contains these seven aspects.

FROM EXPERIENCE WE CHARACTERIZE DIMENSIONS

These seven aspects of experience are occurring to us in a rich diversity of combinations and so we need to move them closer to the more conventional way of speaking about dimensions. Table 1 relates them (but only approximately) to the customary conventions.

The expression "-like" is used to remind us that, at this stage of articulation, the idea of the present moment is not assuming the customary conventions, just alluding to them. It will emerge later that our customary notions are special cases of more general characterizations. The experiences of location, separation, and rotation are much more clearly in the domain we refer to as space. However, the expression "time-like" needs more explanation. Succession is closest to the convention of chronology and the measurement of time that provides a convention for "one thing after another" and "how long do things take?" Potential is different; it is not manifest and yet is present in time. In any moment there is potential for emergence; if not now, at some future time. Hence it is time-like. Manifestation will reveal as actual some previous potential but, assuming that potential is quasi-infinite, not the whole of potential can be manifested in a given moment. Thus there is an aspect of selectivity that could only operate if there is another time-like degree of freedom.

The labeling of a seventh aspect as a transcendental dimension means that, in a sense, there is no dimension in singularity because there are no distinctions. It could equally be called an immanent dimension that is ever-present.

This can also be related to nonlocality. At the time of Bennett's work the mathematical physics and popularization of the idea of singularity and nonlocality had not been developed and many of the strange phenomena of the quantum world had not been fully characterized. Rather, as a philosopher, he approached it from consideration of the question as to how value fits into the scheme. He considered that another degree of freedom was required to account for the penetration of value into everything. He postulated that this seventh dimension is continuously connected to the whole six-dimensional order of nature. He saw this as allowing transformation of a different kind from the major world processes. In the passage below Bennett uses the terms eternity and hyparxis in addition to space and time. The meaning of these terms will be explained following the quotation.

> I shall, therefore, examine the consequences of the hypothesis of a set of determining conditions with seven degrees of freedom. These can be formulated as follows:
>
> 1. Values are not separated from facts, but cannot be represented in the six-dimensional framework of space, time, eternity and hyparxis.
> 2. Reality has seven degrees of freedom, within which all values and all facts can be represented.
> 3. Value is non-metrical.
> 4. The seventh degree of freedom is non-metrical, and no transformations from either space-like or time-like dimensions of fact into the seventh degree of freedom are permissible.
> 5. All possibilities can be represented in six dimensions, and therefore the seventh degree of freedom is available for representation of impossibilities. (Bennett, 1956, p. 31)

The space-like dimensions can be translated into the conventional space of three dimensions of the x, y, z axes or 3-D but it is important to recognize that the experiential qualities easily get lost in the abstraction and complex ideas of coordinate geometry, algebra, vectors, and the fact that trigonometrical functions have to be introduced to express the qualities of location, separation, and rotation.

The time-like dimensions are harder to translate because our culture is dominated by the linear time of the clock, the mechanization of life to the clock, the very real aspect of experience that one thing does follow another (even though that is not the whole story), and elevation of the second law of thermodynamics to a sufficient and complete scientific description.[2] In contrast and as an example of contrary thought, Arthur Young (1976, 1992), engineer and philosopher, also argues for three dimensions of time to complement the three dimensions of space.

> Now, it is not unreasonable that there should be three time dimensions, in a sense the counterpart of the three space dimensions which are an obvious necessity to describe the world of sense experience. And the account of process

given by the seven stages of the arc, which take place at four levels, defined in terms of dimensional constraints—that is, Level I is outside of time and space; Level II in time but not constrained in space; Level III in space and not in time; Level IV in both time and space—is adequate. It complies with ancient traditions; it does justice to the findings of science; it accounts for phenomena inadmissible to science; and it provides the stage for a description of life that anticipates life's principal features. So far, so good.

The seven determining conditions can also be thought of as degrees of freedom; that is, the total "space" that enables us to have the experiences we have. (Space is in quotes to emphasize that here I am using the term in a metaphorical and mathematical sense.) These degrees of freedom can be correlated with dimensionality but if we revert to the usual words used in this area like time and eternity, we rapidly get caught up in the assumptions that this article is endeavoring to challenge.

For this reason, rather than use the usual terminology, I will use Greek names that have some resonant meaning with the description above. As well as facilitating a different conception they also have some correlation inherited from the more observational and reflective Greek philosophy.

The corresponding terminology summarised in Table 2, is:

Succession—***Chronos***[3]

—the sequence of events and cycles as measured by methods from the rotation of Earth to atomic clocks by what are conventionally called time intervals. Chronos also has the connotation of duration as experienced.

Potential—***Aionios***[4]

—the inherent patterns of everything lying outside of chronos.[5] This is also the aspect of latency that relates to our sensing of unmanifest potential.

Manifestation—***Hyparxis***[6]

—actual specific occurrence, ableness-to-be, which is the structural coupling that brings potential into actualization even contrary to temporal processes, such as the Second Law of Thermodynamics.

Indivisible Unity—***Henosos***[7]

—the cosmos as one inseparable subject penetrating the six other dimensions and therefore unrestricted by what are normally called space–time constraints.

The Four Basic Continua

Only in the abstract can we separate the dimensions. What we actually experience are interdimensional complexes. After Einstein we have become used to the expression "space–time continuum," where time is no longer treated as

Table 2.
The four dimensional continua.

Space + Chronos	SC continuum	Sequences of events in a location
Space + Aionios	SA continuum	Latent patterns in space
Space + Hyparxis	SH continuum	Local manifestation of the individual and the particular
Space + Henosos	SN continuum	Unity beyond space and time but omnipresent

independent of mechanical motion in three dimensions. In relativity theory time cannot be separated from the three dimensions of space as it depends on an object's velocity relative to the speed of light. This idea is extended here to propose relativistic coupling of space to all the non-spatial dimensions, forming three additional continua. As conscious space embodied beings, we acquire our experience from the combination of the three dimensions of space with the four remaining dimensions in parallel and in combination. Each continuum is a container of a crucial aspect of reality. It is the combination of the time-like dimension with space that provides the, usually invisible, content of experience.

Our conventional awareness assumes a four-dimensional existence, **SC**—space/chronos or space time. However, each of the other combinations is itself an aspect of being that may be invisible or may interact with our mundane perception. Thus we have

SC—the succession of events
SA—the patterns of potentiality
SH—the power of unique manifestation
SN—the indivisible whole

These four terms—**SC, SA, SH, SN**—provide a symbolic language to talk about phenomena and the nature of things that steps out of the limited framework of mechanical causation in space–time. This latter is a limited frame, a special case of the seven dimensions and the four states of beingness. Cosmological explanations now can break out of both the linguistic constraint and the mythos of the limited contemporary scientific worldview and the fanciful worldview of mysterious beings in other dimensions.

The four determining states interplay in great richness in the manifestations of the many levels of the universe. Ultimately these continua are themselves aspects of the indivisible sevenfold super-continuum of all seven dimensions.

Figure 1 represents the total space continuum composed of the three time-like determining conditions of chronos, aionios, and hyparxis. The whole is contained in the universal whole referred to as space-henosis. This continuum is everywhere and nowhere.

At the center of the diagram is the thin or thick present moment (Hodgson, 2013), which is a coterminous of all three dimensional continua. Our experience is taking place in the complex center where the three aspects are mutually congruent in a manifestation. In the center circle is essentially the available explicate order of the large circle, which is the implicate order itself in a

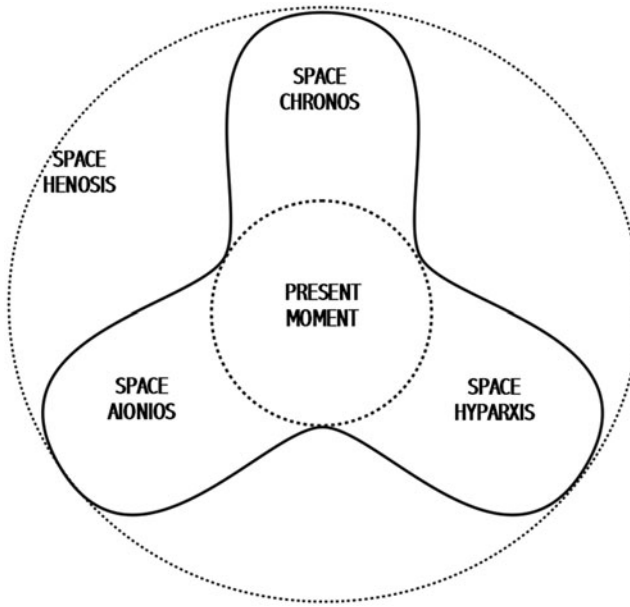

Figure 1. The threefold continuum.

continuum of all seven dimensions. The "pulsing" of the threefold continua is one way of picturing the holomovement proposed by Bohm and Nichol (2003), which continually manifests and unmanifests structure.

Space is neither inert nor empty. The deep nature of space—of which our regular space is but a projection—is understood as a plenum, a highly varied structure-process that includes potentially infinite qualities. Thus space itself is understood as a multidimensional ordering medium (Smolin, 2012).

Having established the dimensional framework, it is now possible to take a fresh look at how this scheme of dimensionality provides us with a way of making deeper sense of the way the world works at many levels of holarchy. I shall begin with reinterpreting the basic physical level.

THE IMPLICATIONS FOR CAUSALITY

The dominant conventional view of causality is deeply embedded in the notion of "time's arrow." All causes are antecedent and are therefore in the past of a linear time. There can be no causality from the future because the future does not exist. All that exists is a present that has come to pass from these antecedent causes.

Systems thinking introduces a modification with the notion of feedback that partly breaks the linear causal chain. In causal loop thinking effects can be causes. The output of a system at some point in time can also become

information that contributed to the determination of outcome. This generates nonlinear behavior that cannot be attributed to simple 1:1 linear chains of cause and effect. The feedback is not from the future but casual loops mess with time in that they can lead to acceleration, decelerations, and discontinuity. They destroy simple extrapolation.

Quite different is the notion of synchronicity. This phenomenon is when two apparently unconnected influences are coupled in a way that gives a result that neither could give alone. The coupling cannot be caused by either or both but emerges as a new property of the situation. It is considered to be acausal. Of course, the linear view attributes it to statistical accident but, especially in human experience, there can be meanings in synchronous events that defy linear logic.

The development of complexity science also introduces a noncausal factor summarized as emergence. In systems theory it is also called entraining. In truly complex systems (as distinct from complicated systems) outcomes may exhibit properties that cannot be attributed to the antecedents. Also very tiny changes in the system can lead to vast outcomes in a way that defies analytical logic. The attributes of a complex system as a whole cannot be attributed to their parts or their past.

If we now extend this framework to entertain the presence in some way of the future then we can suppose that retrocausality is real, and not just at the quantum level. If information from the future can enter the present then there is the condition for genuine feedforward, which needs such information. Pseudo-feedforward comes from some model of the future (such as a scenario) that influences choices and behavior. But this is surrogate for the real future. Real feedforward requires authentic information from the future.

All of the above (linear causality, circular causality, acausal synchronicity, emergence, and retrocausality) can be mapped into the four continua. This offers the possibility of a much richer and interesting interpretation of what is going on. It suggests different variations of what we tend to place under one item of terminology. It also suggests a new framework for exploring what the Buddhist philosophers call interdependent origination. This is essentially a holistic relational view that everything in some way is connected to everything and that singular causation is an illusion of limited consciousness.

Levels of Reality

To explore the implications of the four continua I need to introduce the notion of levels of reality (Poli, 2006). In reductionist science reality is held to be the quantum scale entities that in some way aggregate to give us the world as we observe and experience it, largely fooling us into believing that levels exist when the universe is actually a "flatland." However, there are other views that attribute significance to the idea of levels that are qualitatively distinct from each other and are a priori rather than simply convenient conjectures. For the purpose of this article three basic levels are explored: the physical, the

biological, and the psychological. The latter term is used to cover views of the psyche and the nature of human experience that include the spiritual.

DIMENSIONALITY IN PHYSICS

One of the consequences of the dominant belief system regarding space and time and the mindset that goes with it is the blocking out of the implications with regard to the nature of time and change of what has been learned about the physical universe over the last hundred years or so. Yet thoughtful scientists, including several of those cited as acceptable authorities, have questioned the reductionist assumptions. It is interesting to note that in Newtonian mechanics time might just as well work in the reverse direction. The same is true of classical electrodynamics, which is invariant to time reversal.[8] Maxwell's laws of electrodynamics are consistent with radiation moving from the future to the present and past.[9] Feynman[10] also entertained the notion that time reversal is not inconsistent with the way anti-particles such as the positron are contrasted with particles, such as the electron.

John Wheeler, a cosmologist, has implicitly attributed an attribute of "future-already-in-being" in his participatory anthropic principle. In his view reality is actually summoned into existence by countless acts of observer-participancy by quasi infinite conscious observers situated in the far future and ubiquitous throughout the universe (Gardener, 2007, p. 109; see also Gardener, 2003). The expression "quasi infinite conscious observers" bespeaks a universe generated from intelligence just as much from a "big bang" but in a way utterly different from the creationist worldview.

A starting place to open up other interpretations of time is relativity theory (Di Corpo & Vanini, 2010, pp. 74–81).

The energy momentum mass equation of Einstein's special relativity $E^2 = m^2c^4 + p^2c^2$ is a second order equation and consequently is solved by a square root that has two solutions: a positive solution ($+E$) and a negative solution ($-E$). The positive solution has been taken up by mainstream physics and is a framework accounting for energy and mass that diverge from causes located in the past (let's call this conventional *causality*). The positive solution is consistent with the law of entropy (from Greek: *en* = diverging, *tropos* = tendency) as developed in thermodynamics.

Conventional physics and the dominant contemporary worldview reject the negative solution as meaningless and irrelevant. However, some theoretical physicists point out that what is sauce for the goose is sauce for the gander and that there is something we have evaded in our understanding if we only take up the "convenient" positive solutions to powerful mathematical theories. The implication of the negative solution ($-E$) is that it describes energy and mass that diverge, backward in time, from causes that are located in the future (let's call this *retrocausality*). The negative solution is governed by a law symmetrical to entropy named *syntropy* (from Greek: *syn* = converge, *tropos* = tendency). The law of entropy describes the dissipation of energy and the

increase in the homogeneous distribution of matter. On the contrary, the law of syntropy describes the concentration of energy and the increase in differentiation and complexity (i.e., the transition from disorder to order and from energy dissipation to energy concentration and absorption).[11]

Gardner approached the same question of degradation and the development of order from the perspective of complexity science. He proposes a Fourth Law of Thermodynamics that applies to self-constructing open systems such as biospheres. He refers to Kaufman's idea that this law may relate to a fundamental and hitherto unrecognized force in the universe that "relentlessly drives the cosmos as a whole to construct itself to be as complex and diverse as possible. This suspected fourth law would serve as a counterforce to the disorder generating second law of thermodynamics" (Gardener, 2003, p. 282). This might well be the same basic idea as the law of syntropy as proposed by Fantappie.

I can interpret this further using my dimensional categories.

Causality is energy moving in *space chronos* (**SC**) into increasing dissociation and hence is entropic. Retrocausality is energy moving from a state of latency or potential in *space aionios* (**SA**) and imprinting pattern and hence is syntropic. Thus, phenomena are not purely causal but are an interaction of energy of two forms (**SC** and **SA**) of degradation (so-called heat death of the universe) and organization (which we could call the life patterning of the universe).

However, there is an aspect missing here. Not all potential in **SA** is brought out into phenomena. Just as, at the basic level of existence, most of the material of that level of universal stuff is dark matter and dark energy, also at any level of phenomena only a sub-aspect of potential enters the phenomenal world. The degree of freedom for this to be the case requires the further dimensional framework of *space hyparxis* (**SH**).

In quantum physics it has been shown that particles can have interactions outside their local system.[12] These interactions have no limit on separation distance and so mediation, for example by light quanta, is impossible. Rather than digging ever deeper for elusive hidden variables another approach is provided by the idea of the seventh dimension henosis. So the continuum *space–henosis* (**SN**) is the unity of everything everywhere. If this effect arises from the seventh dimension then it applies to all levels of experience.

This becomes evident in moving up closer to the levels of life and mental experience.

DIMENSIONALITY IN BIOLOGY

The macroscopic level is apparently dominated by the entropy in **SC** (Second Law of Thermodynamics), which tends to destroy any form of organization so that living systems are constantly struggling for survival. There are vital needs such as acquiring water, food, and shelter. But some of these needs are also about imbibing and renewing the pattern of life inherent in **SA**. The struggle is driven by the ableness-to-be of the organism in **SH**. This might also be called "the will to live." Bennett (1956) termed it the "hyparchic regulator," which

exercises the power to live. This is much more than a temporary negentropic dissipative structure (Prigogine, 1996).

Both Hoyle (1983) and Fantappie have proposed that the distinguishing feature of life is the capacity to choose the future over the past. Hoyle concludes that in this interpretation the universe may not have originated from a compressed low entropy state with a big bang, degenerating ever since. In contrast the universe could begin from a relatively primitive state and gradually accumulate information from the future in which order and organic complexity are increasing. Fantappie, a theoretical biologist, built on various sources of theoretical physics and concluded that there are two fundamental kinds of waves (Di Corpo & Vanini, 2011):

- Diverging waves governed by the principle of entropy where causes are located in the past
- Converging waves governed by the principle of syntropy in which causes are located in the future

The nature of life, he proposes, is that it has the capacity to select and respond to syntropic information, thus balancing the degrading laws of thermodynamics or entropy. Syntropy arises not only from the future influencing the present as in retrocausality but also through the elicitation of pattern held in **SA**. Parallels can be made here with Bohm's (1980) notion of the implicate order, which is explicated into manifestation.

This also correlates with the studies of another theoretical biologist, Rosen (1985). He studied in great depth the nature of anticipation, regarding this as a key quality of living as contrasted with dead systems. Anticipation, he says, needs feedback, but beyond this it needs something distinct that he called *feedforward*. The nature of feedforward is that it responds to information *from the future*. Of course this does not sit well with orthodox reductionist science. He also explained that feedforward drew on a model of the future that could have elements that did not derive causally from the past. Rosen (see Louie, 2010) summed up this assumption of orthodox science as the unspoken *Zeroth Commandment*: "Thou shalt not allow the future to affect the present." This is the limited and limiting view that the only time is linear, continuous, and irreversible. It also eliminates any consideration that in some sense the future exists and that information may reach the present from the future. However, the extension of anticipatory systems theory to the anticipatory present moment (Hodgson, 2017) allows for multiple signals from all seven dimensions to be arriving in the present.

> The three "traditional" causal categories (formal, material, and efficient causation) always respect this flow of "formal time," in the sense that "cause" Q always preceded effect P. Final causation gives the appearance, at any rate, of violating this flow, the sense that the effect of P seems to be acting back on the causal process that is generating it; it appears that the "future" is actively

> affecting the "past." … Final cause clearly cannot fit within the same temporal sequence in which the other causal categories harmoniously operate. (Rosen, 1991, p. 49)

It is a huge but consistent step to apply the principle of universal consistency to the universe as a whole. Gardener (2003) determinedly does this in his work *Biocosm*:

> … the life friendly quality of physical laws that dominate our cosmos is a causal and fully naturalistic consequence of the fact that highly evolved life and intelligence constitute the duplicating machine that is responsible for the replication and re-creation of universes like ours. In other words, it is not that a vastly improbable set of cosmic coincidences somehow managed to come together fortuitously to randomly endow our universe with its peculiar life-giving qualities; it is rather that highly evolved life (and its by-product intelligence) is the hypothesized causal agent that gave birth to our universe and, in the process, replicated the full suite of life-giving physical qualities of a predecessor cosmos, thereby transmitting to our universe the same life-mediated reproductive capability possessed by the "mother" universe. Under this scenario, the life-friendly physical attributes of the cosmos and the puzzling phenomena of the origin and evolution of life and intelligence are tightly linked in a hypothesized causal relationship. (p. 122)

DIMENSIONS IN PSYCHOLOGY

We now step from the biological to the psychological and spiritual. The notion of vital needs is a bridge. At the basic biological level these are taken to be those things necessary for survival, such as air, water, food, and shelter. The living organism anticipates the need and initiates actions for their future satisfaction (Rosen, 1991). However, beyond the biological vital needs also include a series of intangible needs, just as vital and important as material needs, such as the need for meaning and the need for cohesion and love. Humans and higher animals exercise their choice of the future over the past to satisfy these more subtle needs. For humans this is also at a next level the region of finding meaning and engaging in spiritual search.

When a vital need is met only partially an alarm bell is triggered. For example, if we need water, thirst is triggered; if we need food, hunger is triggered; if we need but are unable to provide a meaning to our life, depression is triggered; if we need but are unable to provide love and cohesion, anguish is triggered. Depression and anguish are alarm bells, similar to thirst and hunger, and inform us that the deeper essential needs for meaning and cohesion are unsatisfied. So, besides describing and explaining the well-known material needs (food, water, shelter, hygiene) the theory of vital needs postulates the existence of immaterial needs, which would be just as vital as material needs and are at the basis of depression, anxiety, and anguish when they are not satisfied.

These subtler needs are not independent of the world in which we live. Bohm described this unity through the analogy of a hologram.

> In this regard our sense experiences, nervous system, and brain are understood as continuous with the whole material world. Though we normally assume a separation between subject and object in our perceptual field, this distinction cannot be sustained when we consider the substantial media of light and sound which transmit much of our sensory input. There is really no ultimate break to be found between subject and object. The totality of these material phenomena may be unfolded and enfolded throughout the brain as a process not unlike that of a hologram, creating memory structures that bear a likeness to "original" perceptions. (Nicol, 2003, p. 79)

But memory alone still leaves us in the trap of the Zeroth Commandment. To take note of the action of the future in the present we must reverse our paradigm of always relating psychological conditions to the past (Seligman, Railton, Baumeister, & Sripada, 2013). We also need to take into account psychological functions, such as precognition and experiences like déjà vu. These functions are not usually accepted as part of psychology today because they appear to break the Zeroth Commandment. But they are well researched and well documented at the edges of science.

For example, one area of nonstandard mental function is the phenomenon of remote viewing. One of the investigators of this field is Russell Targ. He sums up his practical experience over many years of research and experiment:

> It is as though we live in an interconnected spiderweb of space-time, in which the future is an attractor pulling the present toward itself. Since we are nonlocal, the past may also act as such an attractor. It appears that the universe cannot be causal in the usual sense. That is, the likely future is already determined, to the extent that our precognition is successful. What this means for us is that we do not lose our free will, but rather, we can use our premonition information to make even more informed decisions about what we should be doing. (Targ in Dunne, 2001, Preface)

Another area is psi phenomena. Dean Radin (1997) sums this field up as follows.

> After a century of slowly accumulating scientific evidence, we now know that some aspects of psychic phenomena are real. The importance of this discovery lies somewhere between an interesting oddity and an earth-shattering revolution. At a minimum, genuine psi suggests that what science presently knows about the nature of the universe is seriously incomplete, that the capabilities and limitations of human potential have been vastly underestimated, that beliefs about the strict separation of objective and subjective are almost certainly incorrect, and that some "miracles" previously attributed to religious or supernatural sources may instead be caused by extraordinary capabilities of human consciousness. (p. 290)

Beyond reductionism, the nature of consciousness is far more than an epiphenomenon of the brain. Modern research shows that cognitive behavior can be attributed to neurobiological causes, but it generally fails to see that there

are causes beyond that level, including retrocausal influences. There is much more going on at subtler levels where it can be inferred that subtler levels can act causally and formatively to the neurobiological level. Since reductionist science has no notion of levels of reality it cannot entertain the principle that the deeper subtle qualities of mind and intelligence are part of the formative shaping of the vehicles at the material level. In this cosmological scheme we presume a complementarity between evolutionary processes that unfold and emerge higher-level structures and involutionary processes that already have an inherent organizing principle that equally contributes to the shaping of manifestation on any level.

Rudolf Steiner (1999) takes a more radical view of the structure of the psyche (for which in the passage below he uses the classical term "soul") and relates this directly to the nature of dimensionality with regard to past and future.

> If you assume that the stream of love and hate, of desires, and so on comes towards a person from the future and encounters the current of mental images previously characterised, what does our soul life consist of now? It consists of the stream flowing from the past into the future and meeting another stream flowing from the future into the past since that meeting constitutes the sole life of the present moment, you can easily understand that those two streams come together or overlap, so to speak, within the soul; that overlap is consciousness. (p. 135)

This way of looking at the way our mind works is out of range of orthodox science but there is growing research that indicates that our minds have capacities that defy reductionist frameworks. The Zeroth Commandment is weakened in several places by anomalies that point to the need for a reframing of assumptions.

But there is even a deeper psychological capability than consciousness, namely creativity. This can be thought of as arising from beyond consciousness, a kind of super-consciousness. With a worldview of levels of reality and transformation we can suppose that a creative energy is potentially available for our higher nature that can transcend the limitations of **SC** and evokes or "pulls in" new qualities and patterns from **SA** or even originate new patterns from **SH**. The phenomenon of things coming together from potential in a timely way, often associated with an act of will, was called by the Greeks *kairos*. Kairos relates to time; indeed it is in a real sense "in time." Its traditional meaning is "the opportune moment," when the timing is just right. The kairos moment can be related to Jung's 1973 notion of synchronicity, describing when seemingly unconnected events with no apparent causal connection occur simultaneously but with significant meaning in their simultaneous pattern (Koestler, 1972; Jung, 1973). In my terms the kairos or synchronous moment is when an act in **SH** brings out significance from **SA** in **SC**.

Experiencing the Present Moment

The challenge in developing our capacity to be conscious of these aspects in a way that connects with our understanding and sense of meaning is to get

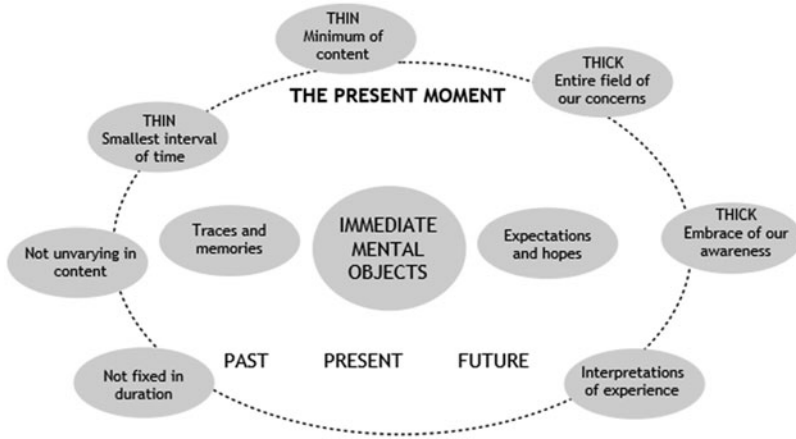

Figure 2. The present moment as experience.

beyond the subject/object distinction. The cybernetician Heinz von Foerster (1995) summarized this in what we might call the *Ultimate Commandment* of the reductionist dualistic approach: "It is the principle of objectivity: the properties of the observer shall not enter the description of his observations" (p. 3).

Quite the opposite is the case if we are to open our perception to the richer mix of qualitative information that the "windows" of the determining conditions let in. For this we have to be willing to firmly place ourselves at the center of our experience. Bennett (1963) implies the background to this in a brief article on the nature of time after he had explained his version of the three dimensions I have termed as chronos, aionios, and hyparxis.

> The three kinds of time are strictly quantitative—that is capable of being measured and expressed in numbers—only in the physical world. They change from quantity as we mount the scale of existence. In terms of our most intimate experiences, even successive time is not measurable. We can travel in eternity: not in our physical bodies but in our consciousness. We can move in hyparxis by an act of will. But although will and consciousness cannot be measured, they are elements of our experience no less real than sensations of sight and touch by which we know the physical world. (pp. 180–181)

Essentially he is pointing to the need to elicit new subtler modes of perception to develop our capacity to appreciate the right structure and patterning of the present moment.

In Figure 2 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.

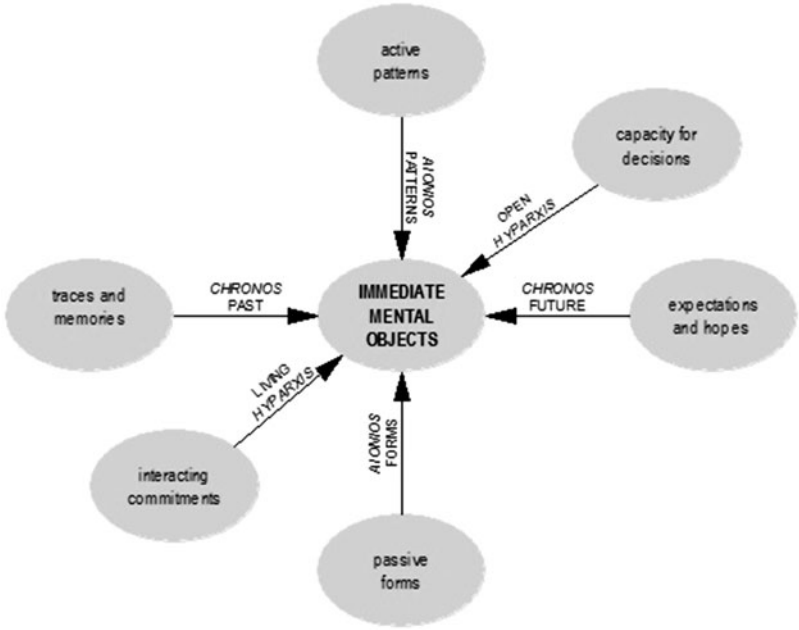

Figure 3. The six perspectives of the present moment.

Characterizing 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 characterize 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 that are some combination of conscious and subconscious framing.

The oval in Figure 2 also represents the boundary of a given present moment. This can be related to the six perspectives as the directions of influence in which the present moment has substance and significance, as shown in Figure 3. The greater the present moment, the greater the embrace of these dimensions and the more diverse the content.

The meaning of the seventh dimension here is the unity in which all these aspects constitute a whole in that dimension. The present moment has fundamental coherence, however fragmented and even distorted its appearance might be.

Table 3.
The Tibetan worldview.

Tibetan term	Meaning	Dimensional continuum
Chö-ku	• The sphere of unconditional potentiality • Nothingness from which all somethingness appears • Creative space	**SA** Space-aionios
Long-ku	• Sphere of intangible experiences • Primary display • Spontaneous arising • Substanceless seed of the material world	**SC** Space-chronos
Dorje-ku	• The singular field • Indestructible field • Enlightened intention • Absolute undivided quality of enlightened nature	**SH** Space-hyparxis
Trul-ku	• Sphere of realized manifestation	The present moment

DEEPER CONSCIOUSNESS AND PERCEPTION OF DIMENSIONALITY

Now, if the phenomenological approach through experience is valid it will not be restricted to a culture like ours that has developed reductionist science. But we cannot expect to find this described in our language of mathematics and physics. Also, we will not find it expressed in Western languages. The best we can hope for is an approximation in, say, English translation that captured something of the experiential feel. If this has some parallels and resonance with the scheme of seven dimensions and four continua then this might be taken as corroborating evidence.

We can get a different angle on this from non-Western sources of knowledge that are not constrained by the limitations of subject–object separation. One source that has intrigued me in this respect is in Tantric Buddhism. The Dzogchen teaching and closely related worldviews from Tibet also affirm that we live in three domains that can be experienced in heightened states of awareness evoked by deep practices. These suggest some correspondence with the three continua SC, SA, and SH, sometimes translated in English as the three spheres (Chogyam, 1995). My conjecture here is summarized in Table 3.

The importance of researching perceptions of space and time, and of beyond space and time, in other cultures is that it here that the split between objective and subjective knowledge and perception is dissolved, as compared with Western thinking. In Western science, perhaps closest to looking this way is second-order cybernetics. This is illustrated in Figure 4. The first box represents the conventional subject–object split. The second illustrates a participating observer who is part of the system (Hodgson, 2010) and the nature of anticipatory systems (Hodgson, 2018).

The idea of an observer participating system aware of its observation takes us to the point where we link the ideas presented so far to how the seven-

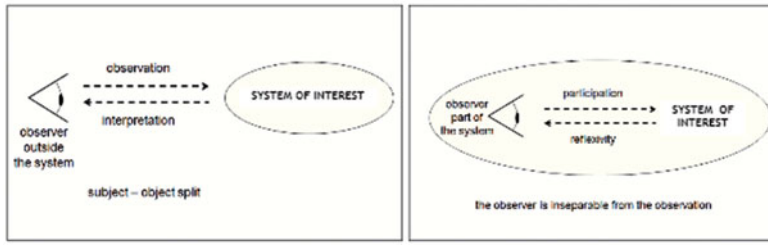

Figure 4. From first-order to second-order cybernetics.

dimensional worldview and the notion of the present moment might enrich foresight.

Enriching Foresight

The scheme offers scope for enrichment for what we mean by foresight and also how it might be deliberately cultivated. In the light of the scheme there are a number of statements that need to be made that set an expanded platform for foresight.

1. *Space-chronos (past)*—Foresight is not simply a matter of trying to imagine what the extension of linear time might lead to in the future. There are other dimensions to consider.
2. *Space-chronos (future)*—Accepting retrocausality changes the way we look at decisions. Taking Fantappie's view that life acts to privilege the future over the past in order to draw on the principle of synergy we can also challenge Rosen's view that feedforward only comes from a model of the future and augment this with the idea that feedforward includes actual information from the future.
3. *Space-ainios (implicate)*—We need to add to Fantappie's principle the idea that life (and indeed all processes of synergy) also draws their patterning from space-aionios. The selection patterning requires the third time-like dimension of hyparxis such that life can regulate to some degree the sustaining of its life pattern.
4. *Space-ainios (explicate)*—Foresight also requires a grasp of past linear time. We do not exclude that but bring it into balance. There are situations of momentum that will inevitably lead to certain things. Pierre Wack (Burt, 2010) called them pre-determined elements.
5. *Space-hyparxis (retrospective)*—There is also the aspect of the living past that lies deeper than simply temporal momentum. On the human scale these might be called commitments. In the longer term they have an intergenerational, cultural, and even civilizational power.
6. *Space-hyparxis (prospective)*—Then there is the aspect that life is an open system, especially toward the future. This openness is all too

> easily addressed by probabilistic thinking and plausible options. But creative emergence is, by its very nature, not plausible in a rational sense. To develop a rich present moment requires creative imagination to come into play and even be receptive to creativity that is presently being played out invisible to the conventional consciousness and methods.

In conclusion, the extension of our worldview by experiential and reflexive enrichment of dimensions beyond space–time opens the possibility of refreshing foresight practices. It offers an imaginal stepping stone to insight as advocated by Markley (2012). Beyond this, it is my assertion that this seven-dimensional worldview resonates more strongly with the nature of our lived environment and indicates a power and effectiveness that can be tapped into. Just as the notion of space–time contributed to the release of atomic energy, space–time integrated with aionios, hyparxis, and henosos could release foresight energy, a form of energy vitally needed by humanity's need for transformation in a complexifying and vexatious world situation.

NOTES

1. See, for example, *Imagining the Ninth Dimension.* Retrieved from http://www.youtube.com/watch?v=uCP44Q37YHA&feature=relmfu
2. The so-called "heat death" of the universe.
3. KHRONOS (or Chronus) was the Protogenos (primeval god) of time, a divinity who emerged self-formed at the beginning of creation in the Orphic cosmogonies. Khronos was imagined as an incorporeal god, serpentine in form, with three heads—that of a man, a bull, and a lion. He and his consort, serpentine Ananke (Inevitability), circled the primal world-egg in their coils and split it apart to form the ordered universe of earth, sea and sky. Khronos and Ananke continued to circle the cosmos after creation-their passage driving the circling of heaven and the eternal passage of time. http://www.theoi.com/Protogenos/Khronos.html
4. The pattern of eternal nature—(*panta aiona estin on) "Aion is* what is properly eternal, in contrast with a divine imitation of it in ages of time, the result of the creative action of God which imitated the uncreate as nearly as He could in created ages. It is a careful opposition between eternity and ages; and *aion* and also *aionios* mean the former in contrast with ages." "for the completeness which embraces the time of the life of each, outside which there is nothing, according to nature, is called the *aion* of each." Aristotle, "in eternity nothing is passed, nothing is about to be, but only subsists." See http://stempublishing.com/authors/darby/DOCTRINE/31003E.html
5. These are also referred to as "latents." http://www.philosophos.com/philosophical_connections/profile_056.html
6. Bennett (1956, pp. 169–170) introduced the term hyparxis for this dimension, after hyparcho—"to make a beginning," which he interprets as the free will to create.
7. Henosis (Ancient Greek: ἕνωσις) is the word for "oneness," "union," or "unity" in classical Greek.
8. "All irreversible processes that occur within closed, finite volumes of phase space will eventually, with probability one, and then again and again and again, reverse themselves" (Albert, 2000, p. 76).

9. Hoyle (1983) wrote, "Because every one of the special situations concerns radiation travelling in the usual time-sense from past to future, it passes almost unnoticed that there is another set of situations with radiation travelling in the opposite time-sense from the future to past. So far as Maxwell's laws are concerned, this second set is as good as the first. But custom dictates that the second set be tossed into the waste paper basket, the rejection being done with so little comment that for the most part one comes to accept the rejection of the future-to-past time-sense without being aware of it" (p. 212).
10. Feynman (1985) wrote, "A backwards-moving electron when viewed with time moving forwards appears the same as an ordinary electron, except it's attracted to normal electrons—we say it has positive charge. For this reason it's called a "positron." The positron is a sister to the electron, and it is an example of an "anti-particle." This phenomenon is quite general. Every particle in Nature has an amplitude to move backwards in time, and therefore has an anti-particle" (p. 98).
11. Note that syntropy has a different meaning from the term negentropy introduced by Prigogine (1996). Negentropy is like an eddy in the river of degradation called the Second Law of Thermodynamics. Syntropy is, however, an equivalent principle of continuous integration and synthesis flowing the opposite way to entropy, the basis of "time's arrow" in conventional physics.
12. For example, the Ahronov-Bohm effect, which indicates non-classical coupling between charged particles.

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