



Defining Sustainability: An Integral Triptych (A Picture in Three Parts)

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Abstract

In this paper an Integral approach to defining and working with sustainability is presented. A limited AQAL approach (specifically quadrants, levels and the temporal line) is used to illustrate and encourage an exploration of Integral perspectives within the complexity of our different conceptualisation of sustainability.

A framework approach to seeing the multitude of sustainability concepts and artefacts clearly by using three fundamental dimensions within the Integral frame is described. This meta-perspective allows us to visualise complex maps of the many perspectives that inform an Integral approach to sustainability to find out what we (and others) really mean by the term.

It is suggested that through our attempts to truly know sustainability from all perspectives within a dynamic Integral whole we can develop a clearer and more comprehensive view from which to assist the transition from mere subsistence to simple sustainable existence.

Introduction

Sustainability, as a concept, seems to us to be important. It is also a concept which, for all the interpretations that abound, seems to defy common definition.

In our practical engagement with sustainability we find that in embracing the multitudes of fragmented meanings, the term can sometimes become meaningless. However, the underlying concept and its aims are, to us, very meaningful. While we continue to have difficulty in achieving clarity in what we mean by sustainability we will find it equally difficult to undertake, with certainty, the practical application required to achieve sustainability.

The aim of this paper is to outline simply an approach to the complexity of an Integral inquiry into sustainability and thereby avoid the confusion that comes in privileging one perspective by instead embracing the diversity of perspectives within the available landscape as a whole.

What is Sustainability?

Those leading sustainability work within organizations and their communities of interest must now seek to understand and integrate concepts such as; environmental responsibility, societal responsibility, corporate social responsibility, sustainable entrepreneurship, corporate citizenship, sustainable development and sustainability. Many of these terms are distinct and are often used inter-changeably adding to the definitional confusion.

In exploring the proliferation of individual definitions of sustainability Prezzy (1997) noted that there was 'little point expanding on the collection of 50 sustainability definitions made in 1989, to the five thousand definitions that one could readily find today'. No doubt the number has increased since then. If we look closely at a collection of definitions of sustainability (and the related and counterpart terms) we are presented with a confusion of complexity within which we hope there to be a hidden and essential truth about our common future (Varey 2004a, 2004b).

A plurality of stakeholders, each with a slightly different lens on what is “right”, now influence each person’s determination of a sustainable path. Marrewijk (2003) looks at this complexity and predicts that in the endeavour to create an adequate response to our changing life conditions, there will arise a wide array of survival strategies, each founded upon a specific set of values, reflecting a vision of reality and a differing awareness, understanding, and definition of the “truth”. As systems of understanding which do not align come together, there will be conflicting worldviews and opposing strategies presented on how to deal with, and interpret, fragmented sustainability dilemmas as separate parts of a greater whole.

The challenge for each person working with sustainability from an Integral perspective is, not only to have clarity as to their own compass of directionality, being the sustainable state they seek, but also to integrate the many perspectives of individual relativism held by those around them. Esbjörn-Hargens (2004) describes this capacity as the ‘cognitive, emotional and interpersonal capacity to hold perspectives that are contrary to one’s own position and to do so as if it were one’s own position’. This internal and external dialogue between a plurality of perspectives is an essential element of the combining together of collective efforts that sustainability work requires. The ability to cultivate the integration of those perspectives through mutual understanding is crucial in the practice of Integral sustainability. ¹

Perspectives within the Landscape

Creating a workable approach to the definition of sustainability is then all about perspectives. To sustain the required meta-perspective it is best to visualise

the sustainability landscape from above, while also walking the ground below. This is done by creating an Integral sustainability meta-map of the terrain. An approach to understanding this can be achieved by an introduction, firstly in metaphor, to the theory and then by examples of the Integral approach applied in practice.

We understand that maps differ as to what they show and the level of detail they contain. However, the benefit all maps have in common is in providing a tool that enables us to be both the observer and the observed. As we stand in one place and see and experience that place, we are also able to see on the map the arrow that indicates “you are here”, defining our point of reference and our position relative to all things. The more comprehensive the map, the more informed is our view of the totality of the landscape and our experience of it.

To be useful a map needs to be sufficiently large in its dimensions so as to contain the landscape, to the north, south, east and west, for the distances in each direction we need to travel. Maps may have contours that indicate the valleys of rich detail and the small hills with a vertical perspective from which we can gain a wider view. They may show in different colours many overlapping uses and characteristics of the same terrain. To understand the distance between points a map also requires a scale, as we know from asking directions, “a long way” and “not far” are entirely relative dimensions. Maps also have a key or legend to indicate different types of features using symbols as a common language and may also contain information to indicate changing seasonal conditions. When all of these elements are combined we create a meaningful and navigable representation of the landscape. Together they comprise, not a map of reality as it is, but a matrix set of perspectives revealing and interpreting the different aspects of reality in different ways.

Using all of these essential elements the multi-dimensional whole is able to be represented in two dimensions. The map informs that view but never represents the entirety of what is the totality of our experience. To be useful it is always referenced back to the actual landscape as viewed from where we then stand. It does, however, give us the ability (and the courage) to explore places we may not otherwise go and to know that they are there. This is the simple power of any map, be it of the physical or the conceptual realm.

In navigating sustainability as a concept we can avoid the risk of getting lost in the complexity of the landscape by being an Integral inquirer, using a meta-paradigmatic or 'Integral' perspective to see both the whole map and to experience the ongoing dynamics of transitions in our experience on the ground. By building this meta-map we can then see our way around the essential features of the landscape to "integrate, bring together, join, link, embrace" all the available perspectives of the terrain into a more comprehensive and Integral worldview (Wilber 2000:2).

An Integral Framework

This more comprehensive approach begins by using the theoretical Integral framework known as AQAL (pronounced "ah-qwal"), which stands for an approach that takes into account multiple aspects of reality including "all-quadrant, all-level, all-lines, all-states, and all-types." For the purpose of our discussion in this paper, we will focus on three of those five fundamental elements: quadrants, levels, and lines. However, in any Integral inquiry all elements are always considered.

Extending the metaphor of the Integral meta-map we can (within the limitations of this metaphor) gain an illustrative understanding of the conceptual distinctions between quadrants, levels, lines, types and states and conceptually how they are applied in creating an Integral worldview:

1. Quadrants: – The dimensions of the map and the territory it covers. To be Integral, it must extend north, south, east and west (and cover all points in between). Looking at only the left-hand grids or only the right-hand grids is to look at only half the map.
2. Levels: - The areas of detail shown by the map which may overlay in levels. To be an Integral map it must recognise that the same territory may have multiple layers of meaning (ie land-use permissions, vegetation type, species habitat, rainfall distribution, contour graduations, soil composition etc.) which may be interrelated, one extending from the existence of the other, but may not be identical.
3. Lines: - The specific paths that link across the delineated areas through the whole map. To be Integral a sufficient number of lines need to be shown to make the map meaningful for its intended use (ie roads, water courses, railways, walking trails, powerlines, animal migration routes, etc.).
4. States: - The dynamic, changing nature of features of the landscape. To be Integral the map recognises that the existence of a feature includes its present and potential states (ie shops, bridges, roads, tourism attractions, wildlife reserves, etc. – may be open, closed for the season, or with restricted access all year round).
5. Types: - The specific features that re-occur in different places on the map shown and identifiable by the legend or key. To be Integral the map recognises both the generic types of features and their unique existence (i.e. post boxes, public telephones, bridges, schools, churches

etc. –are of a generic of type and specifically identifiable by their location, name or sub-classification).

These integral elements are simply ‘a few of the multiple factors that a richly holonic view of the Kosmos might wish to include.’ to present ‘... the full spectrum [of consciousness] in its multiple modalities’ (Wilber 2000:54-55). In an Integral approach, not only is the map continuously re-examined and changed, so is the mapmaker, in a practice that exercises mind, body, soul and spirit in self, culture and nature (Wilber 2000).

Having outlined (simplistically) the premise of integral theory, we can develop our understanding further by an illustration of its practical application to sustainability. ²

The Four Quadrants

The Integral sustainability practitioner seeks to avoid an imbalance of emphasis in one area over another by not privileging one domain over another in terms of its conceptual validity without further inquiry. One way of doing this is to recognize that any phenomenon can be experienced from the perspectives of its four basic manifest forms: the exterior and interior of the individual and the collective.

Wilber represents these dimensions as four quadrants across two dimensions (1996, 1997, 2000a, 2000b), often labelled Upper Left (“I”), Upper Right (“It”), Lower Left (“We”), and Lower Right (“Its”) and referred to as Experience, Behaviour, Culture and Systems respectively (Esbjörn-Hargens 2004) (see Figure 1).



[Figure 1: The Four Quadrants]

For example, individual values (i.e. the interior individual--subjective) have exterior correlates in brain physiology and empirical behavior (i.e. the exterior individual - objective). The individual in turn exists and interacts within a societal system (i.e. exterior collective--interobjective) which has its own cultural norms, beliefs and values (i.e. interior collective--intersubjective).

In the approach outlined in this paper we distinguish the concept of sustainability as it exists in consciousness, either that of an individual holon (an individual center of awareness or perception) or a social holon (in the distributed consciousness), from the artifacts of sustainability that are without consciousness (but representative of it) (Esbjörn-Hargens 2004). Technically, sustainability, from an Integral analysis perspective, can be seen as a conceptual holarchy, being a concept manifesting at different levels in its individual and social forms in both the interior and exterior aspects of any holon (Wilber 1995). The concept itself is tetra-evolutionary.

Sustainability can be viewed from many perspectives and the four quadrants provide a starting point. In applying the four quadrants to sustainability, an Integral approach would, for example, look at the application of sustainability in terms of individual understanding (“I”), the physical structures (“It”), the supporting systems (“Its”) and the collective values operating (“We”). We can see from this that Integral sustainability describes that which is shared collectively, internalised personally, manifested socially and experienced physically in dynamically changing interconnected levels of meaning.

Different sustainability initiatives, interventions, calculations and conventions may sit more comfortably in one or more quadrants. For example, deep ecology interventions may shift consciousness in the Upper-Left quadrant (“I”), eco-efficiency indicators may define the physical facts in the Upper-Right quadrant (“It”), ISO 14001 process compliance may balance the Lower-Right quadrant (“Its”) and community consultation and visioning inform the Lower-Left quadrant (“We”). A meta-perspective involving an integration of all aspects is required.

Sustainability may be defined in terms of personal values such the satisfaction of basic needs, the experience of a particular place, a desire for control over resources, the aim of preserving an existing way of life, a perceived position of economic advantage, an expression of human potential, the wellbeing of the global biosphere as a whole or the concerns for the fate of humanity as a conscious species; representing the individual interior aspects of sustainability (Upper Left).

It may be measured in terms of the physical arrangements of matter, the changes in levels of toxicity, degrees of pollution, trends in reproduction rates, a quantification of biodiversity, the numbers of a particular species, the carrying

capacities of environments, quantities of production, the economic value of resources or the biological features of the landscape; representing the individual exterior aspects of sustainability (Upper Right).

It may be seen as the statutes for environmental regulation, in sustainability management systems, sustainability reporting metrics, theories of geopolitics, the assessment of ecological footprints, reporting of sustainability indicators, in ecological modelling, global reporting initiatives, clean development mechanisms, ISO 14001 accreditation, greenhouse gas management policies, eco-efficiency controls or the systems for creating the triple bottom line, quadruple bottom lines, and multiple bottom lines; representing its collective exterior aspects (Lower Right).

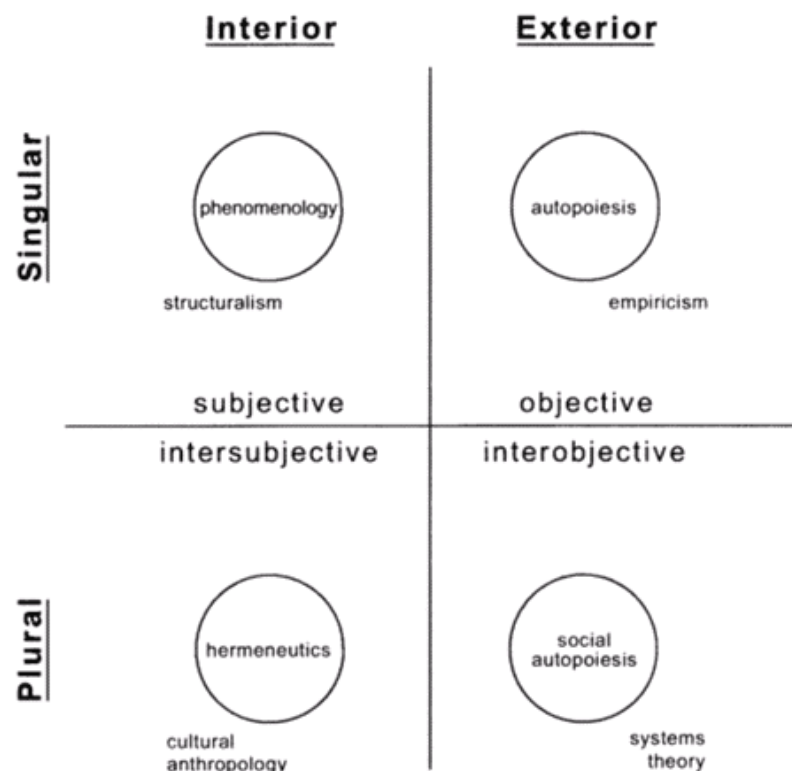
It may also be evidenced in shared principles, the development of environmental ethics, in community visioning processes, ritual traditions in nature mysticism, environmental anthropology, concepts of ecological integrity, voluntary practices in industrial ecology, cultural heritage preservation and historical cultural norms; representing the collective interior aspects of sustainability (Lower Left).

It is in fact about all of these things. It can also be about these things now, or in the future, or both, and how each of these aspects also manifest in all four of the domains.

To implement sustainability systems which successfully manage the entire span of complexity, aspects of all quadrants (e.g. the physical behavior, the socio-political systems, the psychological intent and the shared cultural values) must be considered. For example, a recycling initiative will fail if not understood by the individual (I). If understood, but no behavioural change is encouraged and

physically enabled (It), a shift of mind may occur but with no visible action or effect. Changes in regulations and processes can support the social systems for change (Its), but without a corresponding shift in cultural values (We) there will always be non-compliance. Thus, effective management of sustainability requires at least an all-quadrant approach.

Our inquiry into the four quadrants must also recognise that each individual holon that is a sentient being has available to it at least eight primordial, native or indigenous perspectives of being-in-the-world, representing the inside and outside of each of the co-existent four quadrants (see Figure 2). These perspectives are each accessible through a particular method of inquiry (Wilber 2003) reflecting the need for ontological, epistemological and methodological pluralism. To leave out any of these perspectives (or methods of inquiry) is to fall short of a truly Integral understanding (Esböjrn-Hargens 2004).



[Figure 2: Eight Major Paradigms or Methodologies. Source: Wilber 2003]

Understanding the domains of the four quadrants and the corresponding eight ontological perspectives and including these means that the span of our inquiry and resulting action should not be lopsided, unnecessarily reduced, or unconsciously exclusionary of any fundamental part of the integral whole.

Levels of Consciousness

An Integral inquiry into sustainability should look not only at all quadrants, but also at all levels in all quadrants. To illustrate an Integral approach to levels we will consider the levels within one quadrant, being the Upper Left (subjective individual interior), or the domain of human consciousness (appropriate to an inquiry of the human understanding of sustainability as a concept).

Wilber (1997, 2000a) integrates the work of many other researchers in lines and levels of human psychological development (e.g. Malsow, Kramer, Sinnott, Habermas, Fisch, Wade, Kegan, Cook-Greuter, Kohlberg, Torbert, Perry, Armon, Mumford, Howe, Rawls, Piaget, Selman, Gilligan, Erikson, Loevinger, Calhoun, Broughton, Heard, Fromm) to provide us with an expansive model representing developmental levels of emergent consciousness in human development and multiple levels of depth within an Integral frame. From this we have a model representing levels (structures, stages, waves) of conscious existence from prehension to the trans-personal and beyond (1997, 2000b).

Within this expansive depth are our levels of conception regarding all things, including sustainability as a human concept (noting that present manifestations of human consciousness is only one small part of this). From a

research perspective, a useful representation of this part can be found in the work of psychologist Dr. Clare Graves (1959, 1962, 1965, 1970, 1971, 1972, 1973, 1974, 1981, 2002) which culminated in a descriptive model of the structures of emergent human consciousness in terms of multiple and contiguous biopsychosocial integrative levels of existence.

Graves' model of emergent levels of consciousness is one theoretical model (among dozens of others) that can be useful to highlight the basic unfolding of depth, or levels, of consciousness. Its use here is appropriate for an inquiry into an Integral approach to sustainability due to the elements his original research question has in common with the central question of this paper, regarding confusion in the conceptualisation and definition of sustainability.

Graves' inquiry into the potential for a systems conception of emergent levels of human personality and behaviour had its research approach centred around choosing 'an area of human behavior about which there is confusion, one in which there was a great deal of controversy, and one in which the different points of view conflict with one another' and then observing the systems of human behaviour that operated in dealing with that conflict (Graves 2002). Graves' methodology was deductive, based on observations of emergent rules or patterns of behaviour within identifiable psychological, social, biological (neurological and environmental) and socio-systemic dimensions, reflective of and compatible with an integrally framed approach (Graves 2002, Wilber 2000b).

Through his research, Graves identified eight major levels of psychological existence that have emerged so far, originally naming these: automatic, tribalistic, egocentric, saintly, materialistic, sociocentric, cognitive and experientialistic (1970). He attributed each level of existence he identified as also having a primary

orientation in terms of worthwhile ends sought and appropriate means used to achieve those ends (summarised in Table 1 - Graves 1970):

Table 1: Graves: Existential States, Associated Motivational Systems and End Values

Existential State*	Motivation System	Means Values	Ends Values
System 8 - Experiential	Experience	Experiencing	Communion
System 7- Existential	Existence	Accepting	Existence
System 6- Relativistic	Affiliation	Sociocentricity	Community
System 5- Materialistic	Independence	Scientism	Materialism
System 4- Absolutistic	Security	Sacrifice	Salvation
System 3- Egocentric	Survival	Exploitation	Power
System 2- Tribalistic	Assurance	Traditionalism	Safety
System 1- Automatic	Physiological	Purely Reactive	(None Conscious)

*Adapted from Graves, C. 1971, 1970, 1974, 1981, 2002

Within his framework Graves noted the potential for the existence of two distinct tiers. This makes his inquiry particularly relevant to concepts of sustainability. The First Tier is described as comprising *subsistence* level systems (systems 1-6), where meeting the basic needs to subsist in an abundant world are the prime motivators. Extending from this is a proposed emergent Second Tier of *existence* level systems (systems 7-8).

Graves described the shift in perspective between the sixth and seventh level systems as only occurring when “*man truly sees the problems before him if life, any life, is to continue.*” (1970: 153). The distinction between these contiguous and co-existing ‘tiers’ becomes fundamental in highlighting a threshold where sustainability concepts reflect the intention and ability to sustain the continued existence of all life as a complex integral whole. In Graves’ words: “[G-T] values now are of a different order from those at previous levels: they arise not from

selfish interest, but from the recognition of the magnificence of existence and a desire to see that it shall continue." (1974:84).

While all the levels of existence and corresponding values systems and cognition systems described by Graves are legitimate expressions of the human experience, they are not 'equal in their capacities to deal with the complex systems of society' as these emerge over time with ever increasing complexity (Beck 2001b). Using a theoretical approach that recognises the existence of levels of consciousness as identifiable structures, we can see in the development of sustainability concepts a holarchy of increasing complexity, with different levels of complexity being more or less appropriate to meeting specific sustainability ends using corresponding sustainability means. ³

An organization with simple sustainability issues requires only a conceptually simple sustainability system. Organisations with a more conceptually complex span of sustainability concerns will require systems of a higher order of complexity. As circumstances change, particularly arising from external conditions that affect continued existence or the perception of this, higher order systems will need to be developed. Whether such systems can be developed in time once the perception of the need for them occurs is of course the quintessential question of continued existence that is central to the range of all sustainability concerns.

This link between the development of consciousness and existence responses will be central to understanding the core concepts of sustainability as they fully emerge. While it could be said that an understanding of the concepts behind Gravesian theory regarding levels of existence are central to an understanding of the management of sustainability, it is more likely that an

understanding of sustainability (and our own unsustainability) is central to an appreciation of the significance of Graves' work.

An entry to Graves' research is provided by Beck and Cowan (1996) who adapted his research and describe values systems corresponding the Graves' levels using a colour coding. The coding reduces our dependence on value-based descriptive labels (with all their different connotations) to provide both texture and form to the theoretical research base, highlighting the sub-surface codes of shared values systems which indicate the more complex dynamic spiral of developmental inter-meshed layers at greater depth.

In seeing sustainability concepts as an emergent and multi-coloured spiral of developmental consciousness we are able to begin to appreciate the conceptual complexity behind the descriptive model, while also maintaining a workable framework. It also allows us to take the important first step of re-framing our sustainability construct around deeper values-systems, and eventually levels of consciousness, instead of surface level economic, ethnic, nationalistic, culture-bound or values based filters (Beck 2001b).

Using the Beck and Cowan (1996) colour coding convention (for convenience but not as a descriptive typology) we can contrast Graves' levels of existence representing levels of adult development in consciousness with corresponding parallel concepts of sustainability at each of the Gravesian levels of existence (see Table 2).⁵

Table 2: Levels of Sustainability Concerns and Corresponding Levels of Existence

Coded Label	Existence Level	Cognition Level	Sustainability Value
Turquoise (H-U)	Level 8	Differential	Emergence
Yellow (G-T)	Level 7	Systemic	Existence
Green (F-S)	Level 6	Relativistic	Community
Orange (E-R)	Level 5	Multiplistic	Advantage
Blue (D-Q)	Level 4	Absolutistic	Compliance
Red (C-P)	Level 3	Egocentric	Control
Purple (B-O)	Level 2	Autistic	Sacrifice
Beige (A-N)	Level 1	Automatic	Personal Survival

For example, using the coding from Table 2 of the nodal states at different levels of emergent consciousness, a Blue Absolutist system at the nodal cognition state in the fourth level of existence may see sustainability in terms of environmental compliance and standards of best practice, to ensure a continued licence to operate within the existing regulatory framework (Compliance). An Orange Multiplistic system may see sustainability in terms of a corporate sustainability index ranking, ensuring options for continued stakeholder support and access to capital in a competitive market (Advantage). The Red Egocentric system could view sustainability in terms of the maintenance of power over natural resource assets, influencing power structures in support of self-regulated industry resource management (Control). A Purple Autistic/Traditionalistic system may envisage sustainability as being the integrity in ritual (e.g. offerings and blessings) to safeguard harvests, the pattern of which is familiar, even if the purpose is unknown (Sacrifice). A Green Relativistic system may see sustainability in terms of diversity in societal wellbeing, using broad consultation to guide its triple bottom line priorities (Community). In Beige the sustainability system is not conscious, simply knowing that if automatic and immediate needs are not met, there will be no need for future needs (Survival). Each system of consciousness for sustaining a level of existence holds a different and equally

valid representation of worthwhile aim. These may manifest in the adoption of identical physical 'means', the only difference being in the underlying motivation and intentional 'ends'.⁵

Where a social-system (such as an organisation or a community) has multiple representations of these levels of development, the sustainability system used should, theoretically, represent, or at least respect, that multiplicity. Doing so enables us to honour the diversity of perspectives held, as well as those that hold them (Edwards 2002). The premise is that different kinds and levels of truth can co-exist sustainably when in alignment as holons and within their immediate holarchies (Koestler 1967, Wilber 1995, Judge 2002). Recognising that each of the developmental levels of consciousness described by Graves and others transcend and include those before it, managing multiplicity is achieved by the integration of systems at each level and the integral movement of those systems to higher orders of complexity when conditions require this.

This plurality of perspectives is not to be avoided. Respect for the right and ability of all to have the developmental level of consciousness appropriate to their existence and potentiality is an essential part of an Integral approach. The different interpretations of sustainability held by those with different perspectives, agendas and priorities can themselves be revealing and provide insights, each level providing the foundation for other levels (Rigby, Howlett, Woodhouse 2000). Each stage is then seen as 'but a prelude to the next, then the next, then the next' (Beck 2001a).

The challenge then is to find our way around in the multiple perspectives of sustainability concurrently operating. To do this we must firstly understand our motivating values base as a guide to our own consciousness, and then understand and respect the depth of the motivational systems and corresponding

levels of consciousness operating within the organisations and communities we seek to guide. An understanding of levels of consciousness is another essential aspect of the complexity to be understood within the Integral frame.

Lines of Development

To visualise the unknowable complexity of sustainable systems we must also add to our picture of sustainability the different lines (modules or streams) of development. These “lines” develop independently and inter-dependently across and within the ‘fluid, flowing, intermeshed average modes of consciousness’ that we have referred to as levels (Wilber 2000b). Lines can be understood as the currents that exist within the waves, manifesting as the high water marks of the different tidal levels that appear on the multiple shores of manifest consciousness.

Wilber (2000b) provides examples of a few of the potential lines of development in the Upper Left quadrant which may be involved in an inquiry of the psychological aspects of an Integral domain such as: cognition, morals, self-identity, psychosexuality, ideas of the good, role taking, socio-emotional capacity, creativity, altruism, several lines that can be called “spiritual” (care, openness, concern religious faith, meditative states), communicative competence, affect/emotion, musical skills, kinesthetics, gender identity, defence mechanisms, interpersonal capacity, empathy and modes of space and time.

To take just one line within all the quadrants as an example, the development of modes of ‘time’ is of particular use in working with sustainability. Wilber (1980, 1981, 1995, 2000b) recognises that each level of development of consciousness has a different type or experience of time, explained as the way in which an unfolding occurs at different levels of being. In

terms of sustainability, the timeframe we seek to manage within will influence our decisions. To define our time perspective on sustainability is to contextualise the effects of our actions and, in terms of our present unsustainability, our inactions.

For example, an indigenous culture with a 40,000 year perspective may see humankind merely as custodians of the earth and temporary stewards. A Fortune 500 CEO may see corporate sustainability in timeframes ranging from the next 100 years or one days' trading following the results of the next stock exchange announcement. Bruce Sterling's Viridian Movement suggests we write the calendar date as 02004 to give us a 10,000 year perspective. For the countless thousands struggling to survive on famine relief worldwide, sustainability may be represented by the next meal. Others may see 'long-term' as being 5 years, 5 decades or 5 generations.

Fraser (1975) reflecting on the strategies of existence undertakes an analysis of the developmental line that is the conceptualisation of 'time' using a composite of meta-paradigmatic perspectives. Extending on the work of philosophical anthropologist Jacob von Uexkull he identifies distinct *Umwelts*, or specific universes, being the world as perceived based on the totality of the receptors (stimuli) and effectors (responses) of the perceiver. His proposition is that concepts of time are limited by the ability for perception and the capacity for response in the psychobiological.

Fraser (1975) identifies five perceptual universes in a hierarchy of levels, being 1. atemporal (where there is no time distinctions between events), 2. prototemporal (where there are distinct events but no temporal order), 3. eotemporal (where events are perceived in succession but not in a temporal context), 4. biotemporal (where events are within a context of directional time - such as towards aging and death) and 5. nootemporality (where conscious

experience allows for memory and forethought); with each level transcending and including the previous level(s).

The concept of a sentient present exists only then in the biotemporal realms and above, with each species developing ‘increasing sharpness as we ascend along the evolutionary ladder’ with corresponding perceptions of time that often overlap but are nevertheless recognizable (Fraser 1975).

Fraser distinguishes between the developmental stage of a *psychological* present, where time perception exists, and the next stage of a *mental* present where expectation, long-term memory, personal identity, communication by language and the symbolic transformation of language emerge – being the *nootemporal* stage. In working with sustainability in the Integral, all of the levels along the line of temporal perception should be within the scope of our considerations. This should include all levels of sentience and the corresponding biopsychosocial developmental levels for different species. Our focus is, however, mostly in the realm of the species worldview that comprises the different stages of (that which we may call) ‘human time’, which again is only a small stage in the overall development of this line across many levels.

To provide a model to conceptualise the stages in the lineal development of sustainability timeframes within the nootemporal level, we can use ascending orders of ‘generational time’ (Varey 2004a). A generation may be crop harvest cycle, a term in office, a dominant paradigm, a human lifetime, a generational span or the unwritten chapters of human history. Table 3 is a notional construct of different generational perspectives on the time dimension of sustainability, created to provide us simply with a definitional base for human concepts of ‘sustainability time’ as a way of seeing this part of one stage in this single line of development:

Table 3: Generational Time Frames for Sustainability

Time Frame	Description	Example	System
Now	Instant	The time needed to become hungry again	Beige
1 year	Seasonal	The time until the next annual harvest cycle	Purple
1-3 years	Present Leader	The term of rule of the present leader	Red
3-10 years	Existing Order	The continuation of the present government	Blue
10-40 years	Current Paradigm	The end of the fossil fuel based economy	Orange
30- 80 years	Generational	The lifetime of our childrens' children	Green
100-300 years	Future-Generational	The emergences in intergenerational equity	Yellow
300-1000+	Gaia-Lifestage	Transition to the next planetary epoch	Turquoise



[Source Varey 2004a]

Each timeframe represents a sustainability focus based on a perspective of the envisaged future at any point in time. Each system transcends and includes, so that they act within the 'now' using the perspectives of the future available from each earlier system, in expanding systems of complexity. As the span and depth increases, so does the 'distance' in terms of the time perspective. For example, Orange may see forward to a future paradigm shift, but will also

understand shorter timeframes involving changes of leadership and political power within current economic cycles as part of its viewpoints on sustainability. A Purple system may deeply understand seasonal changes, but not foresee the changing cycles of political power. As a sense of time is a perceptual variable, these indicative ranges would also change over time as the complexity of perception and responses increase in the nootemporal (i.e. as 'human time' is speeding up). With shifts in consciousness there will also be shifts in these timeframes overall as our conceptualisation of sustainability expands.

An understanding of the many lines of development and how these are dynamically changing (even for something as static as our concept of time) further informs our map within the Integral frame. This one example simply shows the scope of analysis, and in complex systems the range of perspectives required to be held, that an Integral enquiry of different lines of development at different levels (and stages within those levels) would require to complete the Integral meta-map (Figure 3) ⁶.

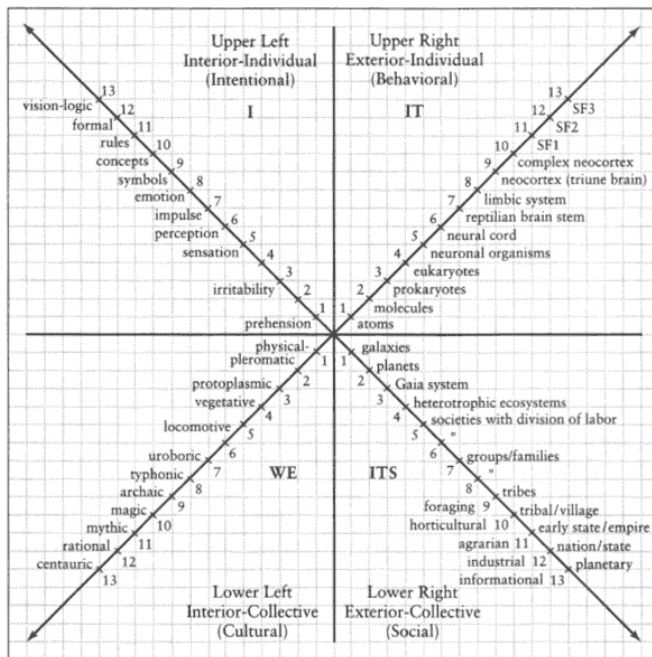


Figure 1. Four Quadrants.

[Figure 3 : Source: Wilber 1998]

An Integral Triptych

Working with the whole of sustainability is difficult. An understanding at a sufficient level of complexity is required for the theorist's perspective to be considered Integral. However, that understanding need not be reduced to an artificially constructed fragmentation of Integral complexity to be effective in practice.

Recognising that there are as many conceptualisations of sustainability as there are individual conscious beings, the importance of an Integral approach is to respect those individual conceptualisations and appreciate their contributions to sustainability as an emergent concept within an integral dynamic whole.

Having defined some of the essential elements of our sustainability meta-map we must then prepare, in our mind at least, a picture of the sustainability perspectives that are operating within a particular field of inquiry with sufficient clarity in the scope, scale and level of detail as is necessary to enable us to hold a conscious integral picture of the entire landscape we seek to explore.⁷ Also, knowing what our map is of helps us to understand its limitations, which apply irrespective how comprehensive a map it may be (i.e. the best map of New York does not help us to navigate our way around Vienna, or even New Jersey for that matter).

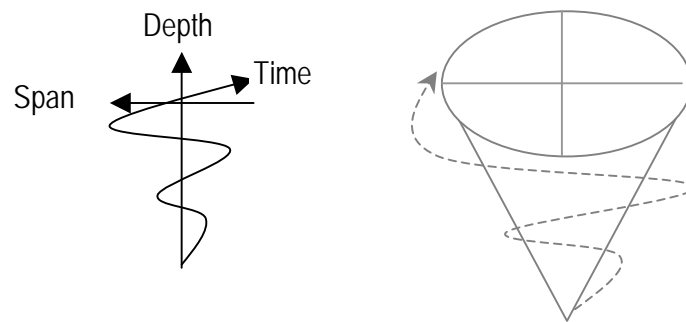
The landscape of the meta-map may be that of an individual, looking at the depth and complexity of their own sustainability concerns and how this is projected into the world (i.e. an individual holon). It may be the description of the complexity of individual perspectives held within a collective (i.e. compound

individual holons). It may be the description of the centre of gravity within the complexity of perspectives held by a collective consciousness (i.e. a social holon). It may also be a map of the landscape of the many composite perspectives existing individually and collectively within a wider frame (i.e. the analysis of the community, organizational or global perspectives on sustainability as individual, compound individual and social holons).

In each case our sustainability map of meta-perspectives is not merely a map of what physically 'is' in terms of tangible exteriors, or what conceptually exists in terms of invisible interiors, in two dimensions, but also represents the third dimension of a dynamic and transitional shifting of consciousness upwards with verticality in levels, while including a fourth dimension in terms of the different and evolving perspectives along lines of development such as 'time'. The difficulty in defining sustainability is in maintaining this level of four dimensional Integral complexity.

Wilber describes the limitations of the two dimensional representation of the Integral framework, so effective in showing quadrants and levels, when moving into a discussion of lines, noting that: "It would be better to draw this diagram as an inverted pyramid, so that several of the multi-dimensional relationships within each quadrant could be better indicated. But then it would lose the advantage of a certain type of simplicity." (1995:192).

However, just as three dimensions may be represented in two, four dimensions may be represented simply in three. Three dimensions that identify the components of generally applicable conceptualisation of sustainability are: 1. **Depth**, 2. **Span** and 3. **Time**. (see Figure 4).



[Figure 4 - Sustainability in Three Dimensions Source: Varey 2004a]

These dimensions represent implicit elements that exist within all sustainability definitions that often remain undefined (Varey 2004a). Defining them provides us with a container within which to hold the complexity of the perspectives available. This provides the dimensions of a sustainability holarchy which contains all levels, quadrants and lines (states and types) within which are located sustainability perspectives in the Integral. To create a workable definition of sustainability we then need to consciously include and find clarity within these dimensions. They can be explained briefly as follows:⁸

Depth: *What do you value?* In terms of depth those inquiring into sustainability will need to decide what they value and why. Depth is the complexity of the vertical hierarchy of the values that are personally relevant to you and their order of significance. The highest level includes all those below. For example, is the end state you seek to sustain to be measured solely by economic criteria and self-interest, with ecological preservation being required to support this? Is biodiversity to be valued for its intrinsic worth or simply for its genetic economic potential? If bottom line measures are to be scorecard for success, will you have a triple bottom line of economics, social needs and ecological preservation that reflects this – and judge success on each, or on a composite of

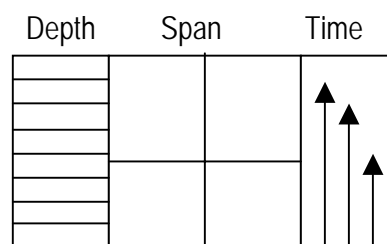
all? A statement within the dimension of depth is explicit as to the highest level of your moral concerns in each of the four quadrants. Essentially *depth* is the detail which is relevant enough to be placed on our meta-map in overlapping levels.

Span: *Whose benefit is this sustained for?* The test of span is the limits you place on your stewardship and responsibility. It is the notional boundary of the focus of your sustainability definition. It is both the dimensionality of the concern (and whether this extends into all quadrants) and the scope of that concern (the expanse within those dimensions). Who, and to what, do your boundaries of responsibility extend to and why? Does this list include dimensions of the four quadrants – the biophysical, the socio-technical, the psychological and the social domains, and if there are elements missing, is this a conscious omission? As the span increases it gets simpler to explain – encompassing more. For example, do you see the Earth as a closed system, so that looking at ecological impacts, the span of sustainability is the ‘everywhere’ and the ‘all’ within the planet? Instead, are you morally responsible only for the economic wellbeing of those with whom you have an economic relationship? Essentially, *span* is the size of our map and the territory it covers. ⁹

Time: *How far in the future can you see?* We will also need a timeframe on our sustainability definition. This is the perspective that informs our decisions when considering their impacts, in terms of the ‘now’ and the ‘later’. When acting for the benefit of the future, where is that future point? How long will it take you to reach a sustainable state and for how long do you wish that state to last? A sustainability definition that is indefinite (i.e. for the ‘forever’) must be tested to see if it actually means all points in an unknowable future (and if this is workable). Essentially, *time* is the scale of the map indicating how much of reality the delimited dimensions seek to represent.

To paraphrase this simply: **“What do you want to sustain, for whom, and for how long?”**.

These three elements when enfolded together allow us to hold as one concept the Integral dimensions of levels (depth), quadrants (span) and (lines) temporal development. Together they form a triptych. Defining the dimensions and detail of the triptych provides us with a way to describe the enfolded whole. A triptych is a painting or carving comprising three side-by-side panels, hinged so that the two outer panels can be folded in towards the central one. The metaphor of the triptych shows how three separate frames form one complete picture, not containing the whole story, but within it a complex representation of its essential elements (see Figure 5). A triptych picture of sustainability respects the complexity while maintaining this simplicity and enables us to ‘define’ sustainability.



[Figure 5 – The Integral Sustainability Triptych]

Defining Sustainability

A sustainability definition is where we choose what we mean by sustainability and place conceptual boundaries around it. Our consciousness is a form of conceptual boundary. Defining the limits of a concept within our consciousness merely respects this fact. When we create a bounded definition of sustainability we also do so with the intention of moving towards achieving that

end state. Definition gives a concept form and provides a means to move towards the functional management of the practical within the philosophical.

It helps to also understand that when we seek sustainability we are in fact seeking the 'ability to sustain' *something*. Knowing what the 'thing' to be sustained is provides us with a key to understanding. Giving clarity to the definition allows us to move beyond a vague concept without context to definable action with content. Too often we take action on the pretext of sustainability having only a vague definitional premise to guide us. In a discipline that requires us to be mindful of the future effects of our present actions in remote space and distant time, we must ask whether such a practice is sustainable.

Once asked to create our own definition of sustainability we then move from generic statements interpreted widely to meaningful statements of conviction within personal boundaries of responsibility. The experience of using the sustainability triptych has been that individuals who may not know and understand the complexity of sustainability concerns are able to define the boundaries of their own conceptual span of sustainability at a level of detail that is meaningful to them. Collectively, where there is a shared consciousness about sustainability, similar statements that represent that shared meaning can also be created. The format provides a three-part frame for the complete picture to emerge:

[What is to be sustained] [for whose benefit] [and for how long]

Example: Sustainability is the ability to sustain [the things that are essential to a meaningful and happy existence], [now and for the foreseeable future], [for ourselves and for those for whom we care]."

In comparing and contrasting over 100 definitions and statements of sustainability, we find that most have an emphasis on one or two of the elements,

and sometimes (but rarely) all three, with differing degrees of clarity and definition (Varey 2004b). When existing definitions are looked at in this way we illuminate the triptych picture of sustainability, seeing the integral dimensions within the more meaningful whole. This is illustrated in the following five examples (Varey 2004b):

A: "Sustainability is a means of configuring civilization and human activity so that society and its members [span] are able to meet their needs and express their greatest potential in the present, while preserving biodiversity and natural ecosystems [depth], and planning and acting for the ability to maintain these ideals indefinitely [time]."- World IQ

B: "Sustainable development means achieving a quality of life (or standard of living)[depth] that can be maintained for many generations [time] because it is: 1. socially desirable, fulfilling people's cultural, material, and spiritual needs in equitable ways; 2. economically viable, paying for itself, with costs not exceeding income; 3. ecologically sustainable, maintaining the long-term viability of supporting ecosystems [span]."- IUCN - World Conservation Union

C: "Sustainability is the ability of a community or society to develop a strategy of economic growth and development [depth] that continues to function indefinitely within the limits set by ecology [time] and is beneficial to all stakeholders and the environment [span]."- Non-Profit Good Practice Guide

D: "Sustainability may be described as our responsibility to proceed in a way that will sustain life [span] that will allow our children, grandchildren and great-grandchildren [time] to live comfortably in a friendly, clean, and healthy world [depth]... " - Thomas Jefferson Sustainability Council

E: "A sustainable world is a society in which all present and future generations [time] of humans [span]:

- a) are healthy and can meet their basic needs;*
- b) have fair and equitable access to Earth's resources;*
- c) have a decent quality of life;*
- d) celebrate cultural diversity;*
- e) are realizing their highest aspirations; and*
- f) restore and preserve the biologically diverse ecosystems on which we all depend [depth]. " - Second Nature Education for Sustainability*

From an examination through an Integral lens we find that the definitional dimensions of depth, span and time (and the corresponding AQAL components) are absent from most statements of the conceptualisation of sustainability. Definitions, while aiming to be meaningful, are often silent as to their true depth of meaning. The Integral view suggests that this is because, within most systems of consciousness (and their corresponding worldviews), there is no explicit awareness of the full integral landscape in all its dimensions of reality. We are usually not aware that, in an examination of *'our common future,'* the concept of *"our"* is not synonymous for all persons, that *"commonly"* held values are not held in common by all and that the concept of the *"future"* has timescales differently perceived by different people (Slaughter 2003). What we are not aware of we do not include.¹⁰

For this reason different statements of sustainability may be inherently anthropocentric, biocentric, egocentric, ecocentric, econocentric, sociocentric, worldcentric, planetcentric or kosmoscentric and also silent as to their depth of values. They may be focussed on the individual exterior (i.e. the quality of water), the collective exterior (i.e. the options for future generations), the individual interior (i.e. continuing happiness) or the collective interior (i.e. our quality of life). They may also envisage sustainable futures that are limited to seasonal or cyclic spans (ie financial year, oil economy), relate to a human or non-human biotemporal lifecycles (ie our children's lifetime, the life of the company) or particular eons (ie the age of hominids). Whatever the scope, all conceptualisations of sustainability once defined are valid and all are revealing of their perspectives embraced. We should expect (and find that) none to be consciously *'integral, complete and whole'* (and yet in another way, all are).

What we must recognise within this meta-frame is that each workable and personal definition of sustainability represents a presently held valid perspective

of a potential future state. Achieving those future sustainability ends is never a function of presently known means. It is a continuing process of evolving existence, and with this evolution, comes ever-expanding perspective and insight. The goal posts are always moving. Our definitions will always shift. In the words of Graves:

“...[man] finds at every stage that the solution to existence is not the solution he has come to find. Every stage he reaches leaves him disconcerted and perplexed. It is simply that as he solves one set of human problems he finds a new set in their place. The quest he finds is never ending.” (Beck 2001b:8)

In not seeking ‘a definition’ of sustainability, and instead appreciating and holding the diversity of perspectives that inform different conceptualisations of sustainability, the Integral practitioner is able to develop *formless aperspectivalism* in their approach to *integrate, bring together, join, link, embrace* all the manifestations of sustainability for the benefit of all.

Conclusion

How we think about sustainability will ultimately determine whether what we do is sustainable (Varey 2004a). If our perspective is to sustain an unsustainable state, there will come an end point. If what we do now affects what happens to us in the future - we will feel the effects. The future is the one that we will create for ourselves – and the benefits and impacts of this will affect us all. Why then is it that we are not able to know and define sustainability more easily?

The significant point overlooked is that while consciousness appears to exist in levels, in an Integral analysis, we see that it is dynamic and changing over

time. What is done instant by instant today determines how tomorrow will be, and this will have changed again by then. It is within our own reluctance to embrace the chaos of the complexity that is involved in a sustainability inquiry that restricts us. This is due to the vulnerability we feel in the unknowing of whether what we do will be sustainable (whatever that term may mean to each person). The mystery of this, a co-evolutionary future of inter-related unfolding complexity, is something we cannot ever know in advance.

However in mystery comes awe in the witness of its unfolding. In the hesitancy of confusing darkness we look for a focus that will illuminate our view of the present state, and that of our future. Within our enfolded picture of sustainability - however temporary those triptychs may be – we find our spotlight onto the perspectives presently held, both individually and collectively. Informed by our Integral meta-map and understanding the deep values held, the spans of present concern, and the visible horizons of those perspectives, we have the means to cut through the confusion of complexity to see ‘sustainability’ for ourselves and as each other person also sees it. From an Integral perspective we can see the continuing dialogues within the greater metalogue.

We only then require equal measures of wisdom and compassion to enact the vision of what is already felt, known to be possible, understood and shared – to find that sustainability is an end state we truly can collectively know in each and every moment of the ever unfolding present.

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Bio

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Footnotes:

¹ As Wilber (2001) notes, '*integrated*' refers to a dimensionally balanced integration of the four quadrants at a horizontal level, '*integrative*' refers to vertical levels that integrate 'lower-level' horizontally integrated structures, and what we call "the" '*Integral*' level really is only ever the highest vertical level that we as individuals are able to validly recognise. Discussions about whether a particular approach is 'integral' or 'Integral' are philosophically vital and pragmatically irrelevant, as we can only interpret and work with the reality determined and perceived by the consciousness that we each (and all) have.

² A summary of Wilber's work is not attempted. Integral theory is best read in its source to understand the complexity and depth of the concept, and re-read as different levels of understanding become available, recognising that an Integral vision of the world as described is an emergent proposition. For the purposes of this paper a deeper understanding of the distinctions within the four quadrants, correlations between them, of holons, holarchies, waves (levels), dimensions, lines (streams), states and types is encouraged (see Wilber 1995, 1996, 1997, 2000a, 2000b, 2003, 2005).

³ Wilber (2003) uses all three terms--structures, levels, and waves--to describe the developmental milestones of human consciousness development, noting that "'Structure" indicates that each stage has a holistic pattern that blends all of its elements into a structured whole. "Level" means that these patterns tend to unfold in a relational sequence, with each senior wave transcending but including its juniors (just as cells transcend but include molecules, which transcend but include atoms, which transcend but include quarks). And "wave" indicates that these levels nonetheless are fluid and flowing affairs; the senior dimensions do not sit on top of the junior dimensions like rungs in a ladder, but rather embrace and enfold them (just as cells embrace molecules which embrace atoms). These

developmental stages appear to be concentric spheres of increasing embrace, inclusion, and holistic capacity.” (2000b:1) with the resulting test that ‘true stages cannot be skipped’ (2000b:3).

⁴ We must also recognise that levels as spoken about by many researchers are generally ‘levels within a developmental line’ which may instead represent various ‘stages’ in development. In this section the Graves research referred to is into ‘levels of human existence’ across multiple lines of development (involving over 20 dimensions of personality including intelligence, cognitive complexity, autonomy, self-concept, honesty, societal values, sociability, neurochemical complexity etc.), and the reference to ‘levels’ is appropriate respecting that work (Graves 2002).

⁵ In understanding that Graves (1970) identified progressive, centralised and regressive stages relating to the transitions between the natural emergence of the eight levels of existence (described as entering, peak and exiting by Beck and Cowan (1996)) we understand that we must see the eight levels in fact as nodal states around which 22 identifiable points of distinct transition occur (the first emergence of consciousness and the final exit point from the eighth level of consciousness possibly not being discernable). However, within those periods of transitions are periods of dynamic stasis such that: “Each successive state or level is a state of equilibrium through which people, organizational ways, or styles of management pass on the way to other states of equilibrium.... When [someone] is centralized at any one level he has only the behavioral degrees of freedom afforded him at that level.” (Graves 1972), allowing us to perceive what is dynamic as being fixed in nodal typologies.

⁶ In addition to the many lines of development across all four quadrants that may be required to form an integral perspective of something as complex as

sustainable practice we must also then consider the relevant concepts of *type* that exist at any point in the landscape (species type, material form, gender, psychological make-up, functional role, ethnographic frame, etc) and the particular *states* (e.g. in each of the physical (i.e. solid, liquid, gas), psychological (i.e. waking, dreaming, sleeping, altered, non-ordinary, meditative), social (i.e. argentic, combinational, communal) and systemic (i.e. expanding, static, contracting), domains for example) as these may be identified with by the *self-sense* (Wilber 2000b). As the scope of inquiry of types, states and self-sense is usually context dependent, these are not dealt with in this paper as examples, but are nevertheless part of the inquiry into the Integral domain.

⁷. One reaction to the complexity of sustainability is simply to 'experience' sustainability with the unknowability being held in the experience of the observer and acted on from that centre. This is of course only one part of the integral domain, being our own perspective as the interior consciousness in the Upper Left. The purpose of this paper is not to describe or suggest more expansive or higher trans-personal conceptualisations of sustainability to be achieved personally, but instead to enable us to hold and appreciate those perspectives of sustainability held by the countless others, that may be outside of our direct experience, but not our scope of consideration.

⁸. The synthesis of the concept of depth, span and time encompasses very large questions, beyond the scope of this paper, but not its intent of inquiry. Depth can be seen as a statement of intrinsic worth (*the beautiful*), span is a statement of moral responsibility (*the good*) and time is the outer boundary of future conceptual reality (*the true*) manifested in all four quadrants, and at all levels, simultaneously, as a holarchy of being. The three elements represent significant concepts, with great breadth of diversity, to be understood at different levels of simplicity as appropriate. Within the trilogy is the composite inter-relationship of these parts as

an integral whole. The framework is simplified, but is not intended to be simplistic, only approached with the perspective desired and available.

⁹. The concept of inter-generational equity as a fundamental element of sustainable development is inherently anthropocentric. The Brundtland Commission noted that “species and their genetic material promise to play an expanding role in development, and a powerful economic rationale is emerging to bolster the ethical, aesthetic and scientific cases for preserving them.” (WCED 1987:147). Sustainability concepts may however extend to inter-species equity, or to all life, or all existence. Limitation of the concept to human concerns is not intended by the reference to ‘who’. At the heart of the integral sustainability approach is always the foundation principle to nourish and replenish our natural habitats so that all life forms may flourish (Beck 2001b). This clarifies that the Upper Right and Lower Right quadrant components of habitats and the habitats themselves (i.e. including the non-sentient, non-organic) can be an intrinsically valid part of the span of sustainability concern.

¹⁰. The reference to the Brundtland Commission Report is intended as this often quoted and generically adopted definition of sustainable development, which reads “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” (WCED 1987:8) is one of the most commonly re-interpreted definitions of sustainability independent of its originating context and unique perspective on intra-generational inequity. One part of ‘Our Common Future’ actually reads “*sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future*” (WCED 1987:40) making no mention of inter-generational equity and also introducing the concept of present aspirations to confuse the definitional premise further. Even the clearest definition it is often fraught with ambiguity when considered outside of its context and with a projected frame of reference.

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