

SCENARIO PLANNING AS AN EXPERIENTIAL EXERCISE IN SOCIAL, REFLEXIVE
AND TRANSFORMATIONAL LEARNING

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Introduction

Scenario planning is, at base, a critical process of social and reflexive experiential learning: Collectively we can learn how to transform our experiences (both real and imagined) into knowledge that we can then use as the basis for informed consensual strategic actions. When conducted in a cognitively rigorous manner, we can collectively learn how to 'learn our way' into the future through 'learning from its contingencies'. Together we can learn how to 'imagine into being' powerful scenarios of different futures that we (or any system of interest with which we are collectively concerned) might plausibly have to face together which we can then use as strategic contexts for shaping what it is that we should be doing strategically in preparation to adapt to the future, or even to attempt to influence its nature. We are concerned with different plausible states of the environment in which our 'system of interest' might well have to operate.

The aim of the exercise therefore, is 'not to get the future right' but 'to avoid getting it wrong' (as they say) – not to try to predict what we believe tomorrow will look like, or should look like, or what we would really prefer for it to look like. Rather it is to learn how to create and investigate a range of different futures as the basis for learning how to set strategies, both for the reactive adaptation of our system in the face of change, and for proactive innovation to generate beneficial change for that system.

As we shall shortly see, what we call the *Scenario Learning Methodology* (SLM) involves three different, but highly inter-related (horizontal) 'cycles' or structured iterative episodes of experiential social learning. And as we shall explore shortly, it further helps to conceptualize each learning cycle in three 'vertical' dimensions - as a three-level model of cognitive processing. The Scenario Learning Methodology demands appreciation of the cognitive nature (a) of the 'primary' experiential task, (b) of the methodology itself as a multi-dimensional process of experiential learning, and (c) of the significance of the impact of the set of assumptions, beliefs and values that comprise our worldviews – the way we "see" the world about us – on both of the 'lower levels'.

In essence then:

- (a) We can imaginatively learn what different futures might look like, and then analytically learn from them about how we can/should most sensibly approach them: This we will call first level learning or *cognitive processing*.
- (b) We can also learn about how we learn about and 'from' the future – about the process of Scenario Learning as a social experiential learning method: And this we can call second level learning or *meta-cognitive processing*.
- (c) Finally, we can learn about the limits to learning - about the nature and methodological implications of the way our beliefs and our values shape the way we go about our first and second level learning, and about the limits that these critical 'worldviews' or perspectives bring to our cognitive capacities: We will call this, third level learning or *epistemic cognitive processing*.

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From this logic, it follows that there are four vital outcomes from a Scenario Learning exercise that is conducted with an emphasis on critical reflexivity. As the three dimensional schema suggests these are (a) the creation of different scenarios themselves and a number of robust strategies – both reactive or *adaptive* and proactive or *generative* - in response, (b) practice in the Scenario Learning Methodology and additional understanding of it as a social experiential, transformative learning process, (c) appreciation of the nature of ‘worldviews’ and their significance both to the scenario learning process itself, and to learning in genera, and in principle at least, (d) the intellectual and moral transformation of all of those who participate in the process. Scenario learning, from this latter perspective, is a process of human development of individuals and social collectives alike

Both experience and theory reinforce the claim that it is the *meta* and *epistemic* learning dimensions of the Scenario Learning Process that have the most lasting and profound impacts on organizational, institutional and community transformational development: Which is certainly not to deny the importance of the creation of scenarios themselves - or the fun that comes with their generation and use.

The Process of Experiential Learning

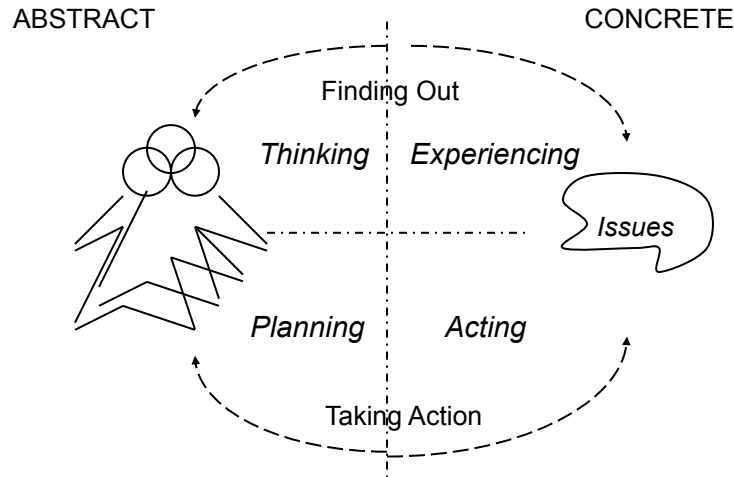
Following the organizational psychologist David Kolb³, we present the idea of experiential learning as a highly iterative (and recursive) ‘cycle’ of four different psychological or cognitive activities: *divergence*, *assimilation*, *convergence* and *accommodation* that in turn reflect two pairs of interactive dialectics: experience/concept and reflection/action.

To paraphrase Kolb: The process of learning starts with the immersion of learners in an issue of interest or problematic *concrete experience* from which as many observations as possible are gathered and perceptions recorded and shared. This is a *divergent* activity in which as ‘rich a picture’ as possible of the matter under review is created. When the ‘picture’ is as rich as the learners would like it to be in the context of displaying the complexity of the matter under review, they turn their attention from the concrete to the abstract: They now attempt to collectively understand what it is that they have experienced and to *assimilate* their observations into some form of mental pattern through *abstract conceptualization* – when sense is made out of what has been sensed, through thinking or ‘meaning making’. The third stage in the cycle moves from ‘finding out’ to ‘taking action’ – or at least, in this stage, about designing plans for taking action. This planning is a *convergent* activity when the thoughts about the matter to hand are further focused and translated into practical plans for what might need to happen next essentially to change or improve the situation that was originally explored. Finally, the planned action is taken through *accommodation* of a host of different considerations, and as this action changes the situation, the whole process is repeated, more knowledge is created, and more actions taken.

While Kolb envisaged this process as a continuous ‘cycle’, he emphasized the ‘recursive’ nature of the process with learners constantly fluxing (in either direction) as a function of the dialectical tensions between each of the four ‘cognitive activities’ (divergence = *experiencing* or *observing*; assimilation = *thinking*; convergence

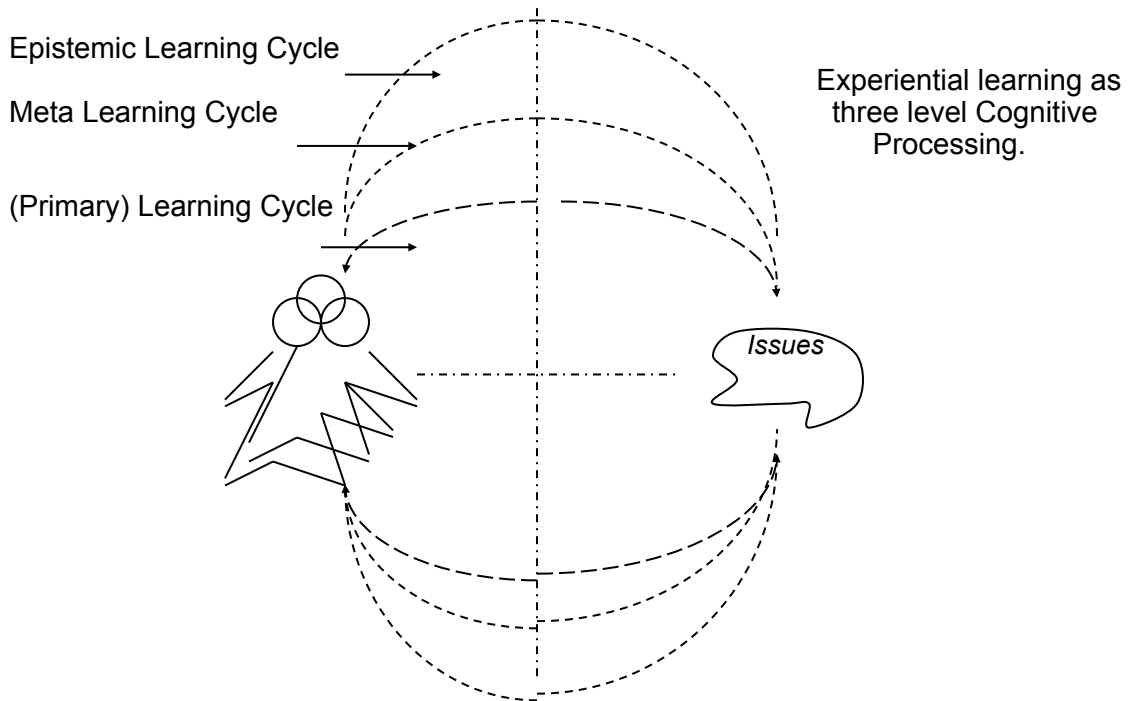
³ David Kolb 1984 *Experiential Learning: Experience as the source of learning and development*. Kolb, D. (1984) Prentice Hall, New Jersey.

= *planning*; accommodation = *acting*). The emphasis on the learners in the plural here is very significant for, as already mentioned, scenario learning is essentially (and vitally) a social or collective learning process. Those involved in the process, learn through, from, and together with, each other through shared experiences, collective meaning-making, and social reflections.

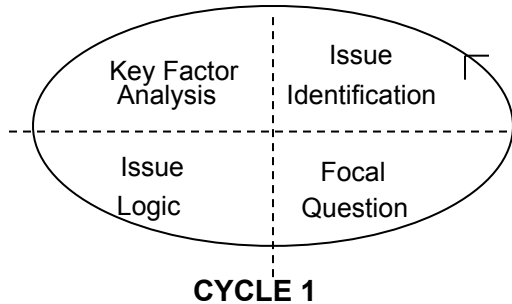


The Experiential Learning Process as a collective (social) learning exercise.

The double-headed arrows here illustrate the recursive nature of the process: Our thinking, for instance, impacts on what and how we experience and what we observe, just as what we experience, in turn, impacts on what (and even how) we think – and so on ‘around the cycle’. And following the earlier statement about the ‘vertical dimension’, we need to extend the model to include the other two dimensions or levels of reflexive ‘higher order’ learning or cognitive processing.



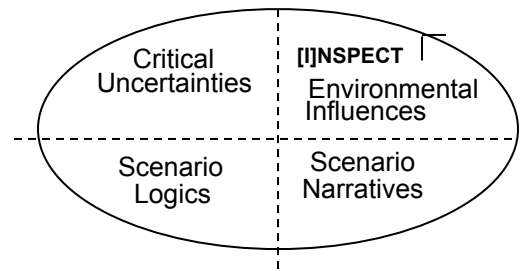
As mentioned above, and illustrated overleaf, the Scenario Learning Methodology also involves three different (three-level) experiential learning cycles each representing a different step in the methodology: From (i) the identification of the Focal Question through (ii) the generation of Scenarios to (iii) their use in Practice



CYCLE 1
Learning to Identify and Focus Issues

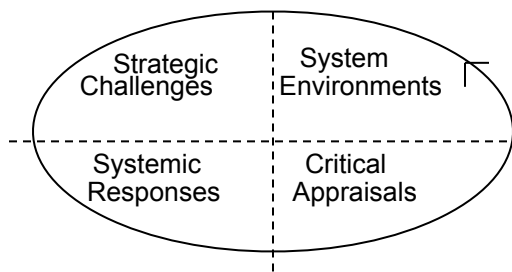
The purpose of the first learning cycle is to identify, from a wide range of potential candidates, one or two issues of most central concern to the 'system of interest' of a group of people. The objective is to capture a question that relates to the overall strategic direction of that system – it might be what it will need to do to adapt to the environment in which it may well have to operate in the future simply to continue to exist or what innovative changes it might need to generate in order to flourish.

The second cycle concerns itself with the creation of a number of different scenarios that represent plausible future states of the environments in which the system-of-interest might well have to operate. The final output of this learning cycle will be powerful (and seductive) narratives that combine into a coherent story, a logic that follows from a set of imagined circumstances that result from a set of 'influences', along with a 'time-line' that indicates how such a logic might well have unfolded,

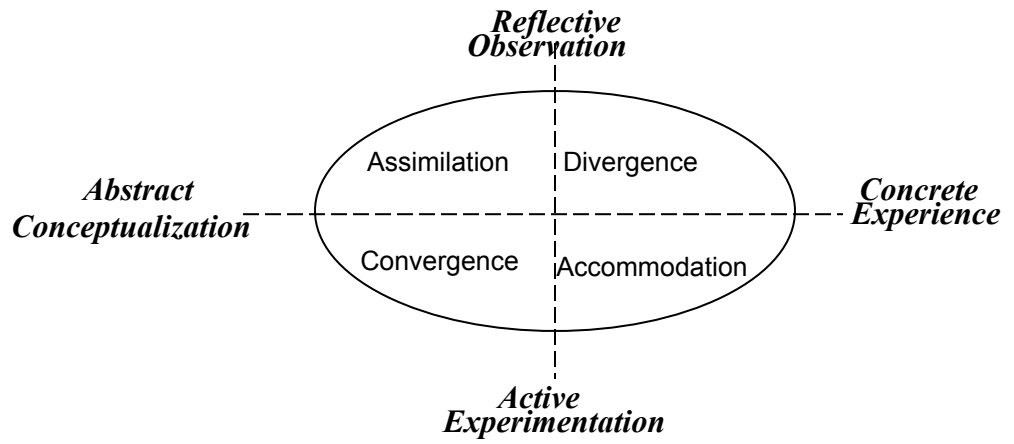


CYCLE 2
Learning to Generate Scenarios

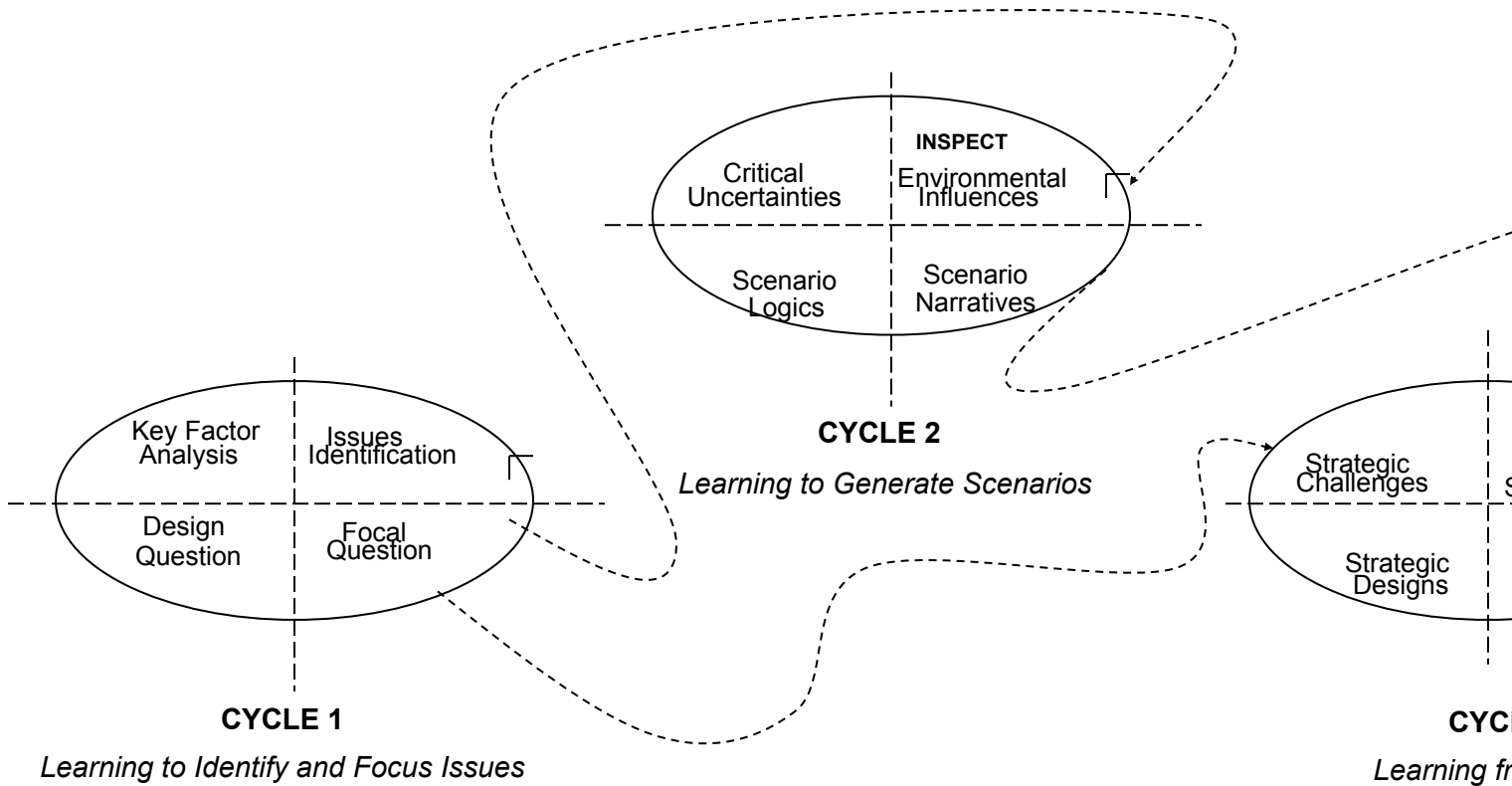
In the third learning cycle, the Scenario Learners explore the implications of the scenario narratives (as plausible future states of the environment) for the focal issues of the system-of-interest that were identified and translated into a focal question as the output of the first learning cycle. This third cycle reinforces the point one central objective of the Scenario Learning exercise is to develop strategies (and maybe policies) that are appropriate to the conditions that might well be prevailing in the future (as identified during the second cycle). Scenarios are thus *means* to the *ends* of the strategic development of the system. They are outcomes of a process of foresight.



CYCLE 3
Learning to use Scenarios



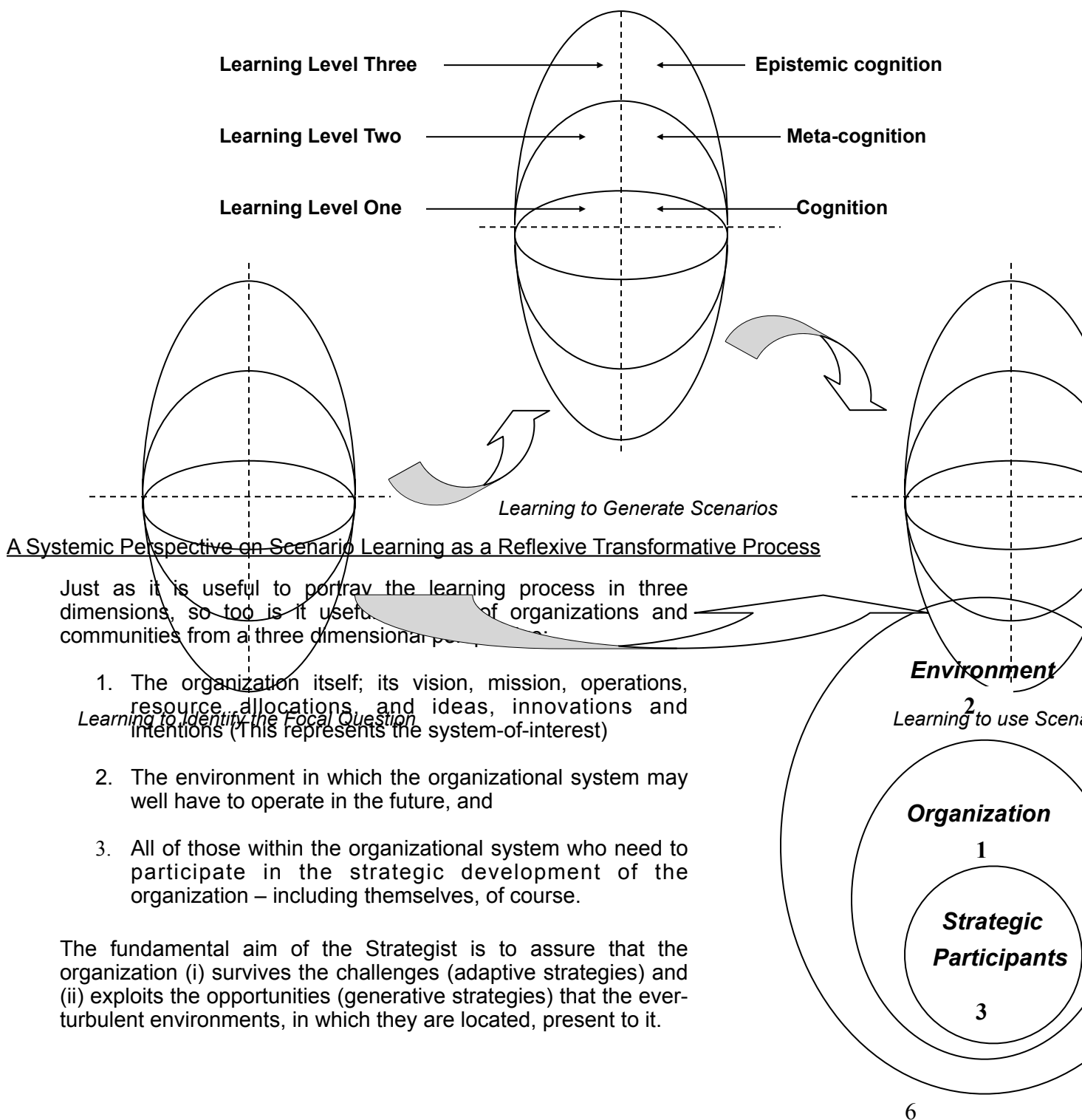
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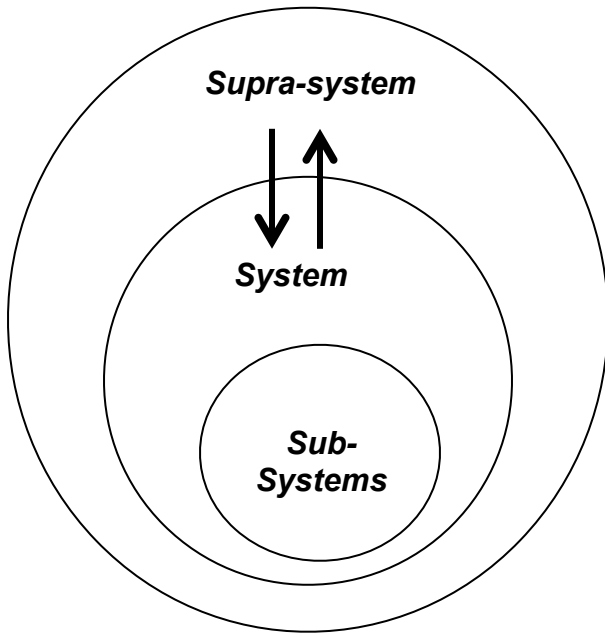


Scenario Learning as an integrated 'Three Cycle' Experiential Process

To make the picture almost complete, we need to convert each of these three cycles into the three level processing. Thus as illustrated below, for each learning cycle, we need to reflexively engage (a) with the part (b) with the process by which we deal with the matter to hand, and (c) with an analysis of the beliefs and influencing the outcomes of each of the two 'lower order' cognitive levels. In learning terms, we (a) learn about that are relevant to the cycle concerned, (b) we learn about how we are learning about those matters to learning about the limits to learning at the other two levels.

And in similar vein to the dialectic nature of the experiential process – where the tensions between experiencing and between reflecting and acting provide the 'energy' for the process – it is the dialectic tensions between cognitive levels here that provides the momentum for the continual flux between them.





In 'hard systems' terms, strategists are essentially with the interface between the (**System** and the (environmental) **Supra-system** it is embedded. The aim is to maintain constructive inter-relationships ('Structural' between the System-of-interest and its through activities designed by the (str **systems** to allow the System (a) to con reactively to any changes that the often tur system presents to it, and (b) to desi activities and/or outputs that can proactively Supra-system in ways that are beneficial to and organization of the System-of-interest.

Characteristics of the System-of-Interest. – Learning Cycle 1.

Just as there is a myriad of ways of thinking about organizations – about their purposes, structures, processes, cultures etc - there are equivalent numbers of methodologies for working out “what needs to be done” to seek improvements in them! Many of these are grounded in so-called “systems theories and philosophies” that all embrace the simple “systems idea” that whole entities or ‘systems’ (as organizations are often assumed to be) have properties that are somehow different from the properties of any of their parts. Such ‘system properties’, which are said to be emergent, arise through the interactions (a) between the component parts (or subsystems) of the system, and (b) through the interactions between the ‘system’ itself and the environment (or supra-system) in which it is embedded. A useful ‘framework’ to identify the essential characteristics of any organizational system-of-interest, is captured by the acronym TWO CAGES⁴. Collective and extensive analysis of the TW OCAG categories of this framework will provide a structure for orienting the identification of the focal question for which the SLM is being conducted. The E will be the focus of attention of the scenario generating learning exercise and the S will be necessary to identify the focus of the eventual strategic direction.

T = The Transformation process – the purpose of the system and/or the desirable and feasible change that is sought as an improvement to its circumstances including its performance.

W = The Worldview or *Weltanschauung* (outlook, framework, perspective or image) that provides the normative and functional context for the desirability and feasibility of the transformation.

O = The Ownership of the system; the agency that has a prime concern/responsibility for the system and which represents the source of power that essentially allows it to exist – and can also mandate it to cease to exist.

C = The Communities of both beneficiaries and potential victims that are affected by the system’s transformational activities.

A = The Actors or agents who carry out, or cause to be carried out, the main activities of the system and who ‘intervene systemically’ in pursuit of the transformation.

G = The agents who, as Guardians, speak for those who cannot speak (for whatever reason).

E = The Environmental constraints/influences (Natural, Social, Political, Economic, Cultural and Technological - NSPECT) to which the system must adapt or attempt to change through co-adaptation

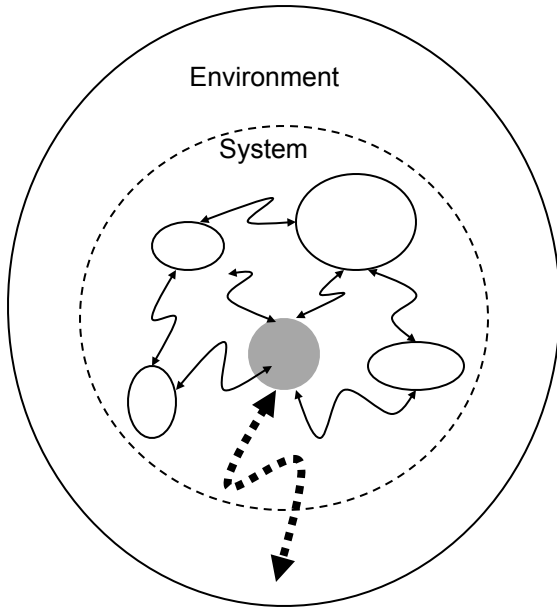
S = The integrated Set of key Sub-systems that enable the human activity system-of-interest ‘to do its transformational work’. One of these key sub-systems will be the ‘learning’ sub-system that ‘brings the system into being’.

The Focal Question and the System of Interest.

The “**S**” of the TWO CAGES acronym will eventually be expressed as a ‘system-of-subsystems’ where each of the sub-systems represents what might be called ‘strategic domains’ or those areas of strategies that the organization under review will need to address in its development, as it instrumentally goes about pursuing its Mission within the context of its value-derived Vision. These strategic domains (sub-systems) will be an essential focus of the third learning cycle where the scenarios (that are generated in the second cycle) will be used to explore the relevance, rigour and resilience of the organization’s existing strategies as well as their inadequacies.

⁴ Adapted from Checkland, P.B. Systems Thinking Systems Practice. John Wiley and Sons, Chichester. 1981

Some thought therefore needs to be given, during the first learning cycle, to the identification of the likely 'strategic domains' as sets of inter-related critical activities that are needed within the organization, for it to play out its mission. Once these strategic domains have been identified, they need to be converted into the 'sub-systems' of an appropriate system ('S') model which reflects the rest of the elements of **TWO CAGES**.



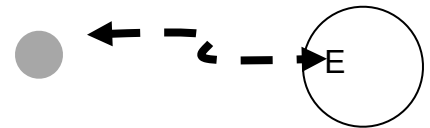
As mentioned above, one of the key sub-systems here must be that 'brings the system into being'



This sub-system will be inter-connected to all of the other strateg



as well as being 'coupled to the external environment' (E) in su
able both to identify current critical 'influences' and imagine and



It will therefore have the primary strategic function of 'enviro
present and future – and of creating and learning from future so
heart of the organization and in this capacity will also assur
ensuring the functional integrity of the whole system in a man
strategic decisions to be taken and follow-up actions pursued.

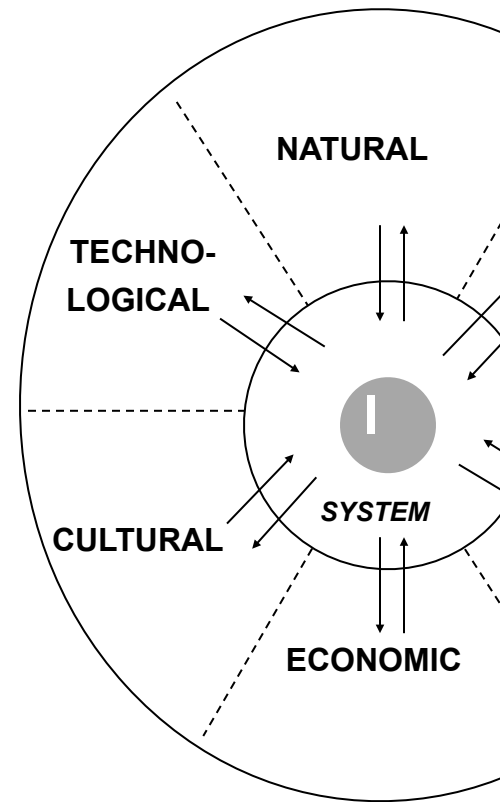
Characteristics of the Environmental Supra-system

The focus of the second learning cycle of the SLM process, is the generation of scenarios which, from the systems we are developing here, are descriptions of different but plausible states of the environmental supra-systems (external to the system-of-interest) which the system-of-interest might well have to operate in the future.

A useful way of exploring the environment, is to 'investigate' or INSPECT it from a number of different perspectives which represent sources of influences on the system (**N**atural, **S**ocial, **P**olitical, **E**conomic, **C**ultural and **T**echnological) all the while recognizing (a) that these are abstractions and thus imposed or construed categories, (b) that single influences from any of these domains rarely 'act alone' and are much more likely to be represented as dynamic complexes of influences within and across the different domains and (c) that everything that is observed or 'imagined into being' with respect to the character of the environment is a function of those doing the observing/imagining.

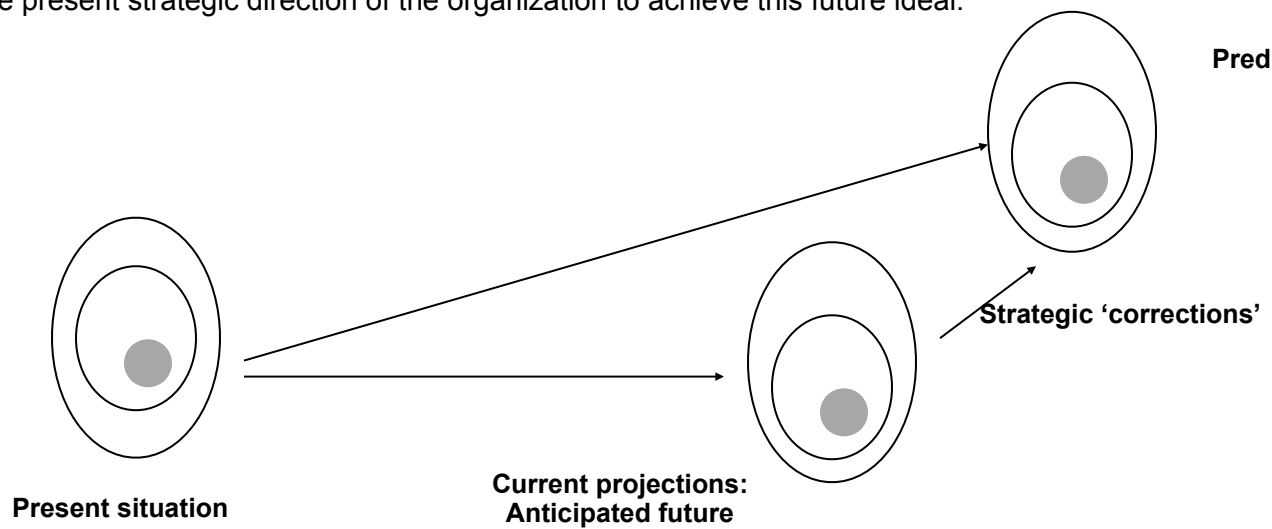
In other words, the nature of the environment is always an Interpretation – personal or collective – of the way things 'really are' let alone 'could plausibly be'.

The "I" of interpretation is most sensibly portrayed as a key sub-system of a system that is embedded within the environment under review.

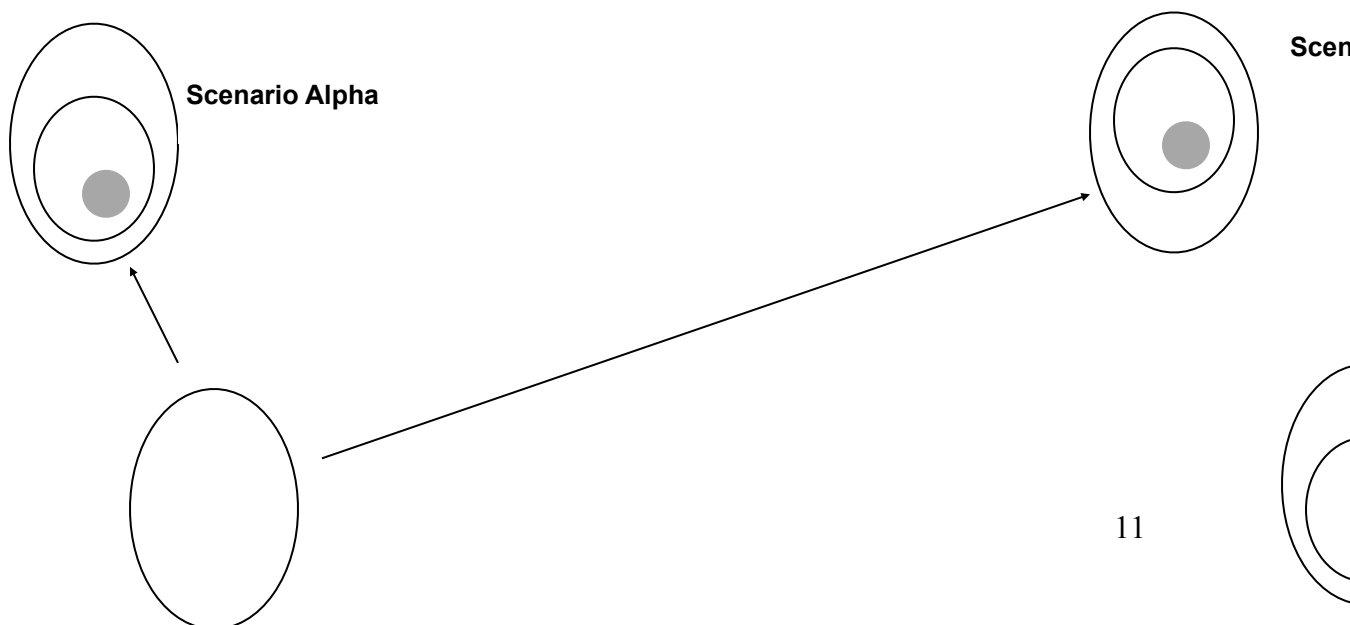


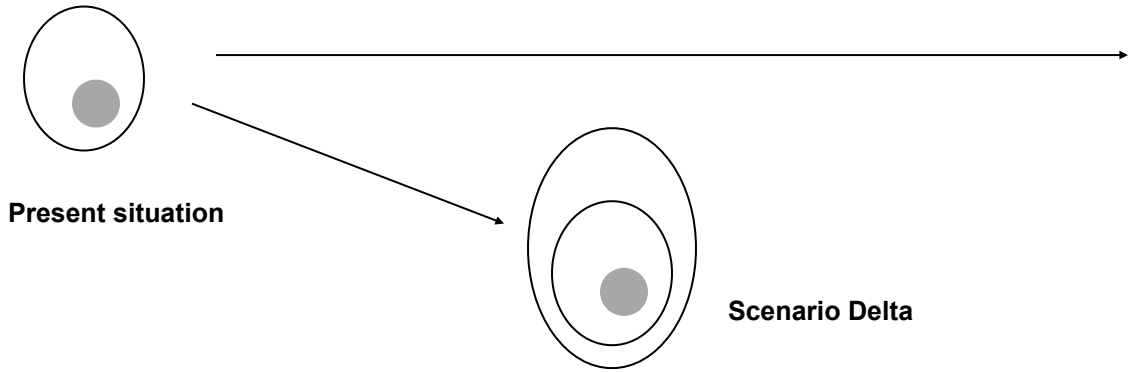
And we flag the significance of this by putting the "I" in parenthesis in the **[I]NSPECTing** process: More on this vital matter later.

If the dynamics of the environmental 'Supra-system' turbulence could be predicted, or known with any degree of certainty, then strategic planning would simply be a matter of deciding on the 'ideal' future state of the System-of-interest within the context of the predictable future, and then correcting the present strategic direction of the organization to achieve this future ideal.



Sadly, the dynamics and complex inter-activeness of the environmental Supra-system render its likely future state impossible to predict. The turbulence of the natural, social, political, economic, cultural, and technological influences (sometimes referred to as 'driving forces') of that Supra-system is such that there are many plausible future states of the environment in which the organizational system might have to operate. Under these circumstances a more sensible aim is not to try to predict the future of the environment, or to design the 'ideal' state of the system to 'fit' that environment, but to explore a range of potential states of the environment and create 'models' of the system appropriate to each. The objective of this exercise, as already emphasized is not to get the future right but to avoid getting it wrong. The skill then is *not to get it wrong* – and in this light, the great challenge is to be as creative as possible in 'imagining into being' different scenarios of the future state of the environmental supra-system and using these as a context to explore different adaptive strategies that would be most appropriate for the systems to adopt to each set of those contingent conditions. In this manner strategists are seeking to be forearmed (and to develop foresight) about the most significant 'sets of differences' between today and tomorrow as the strategic challenges of change!

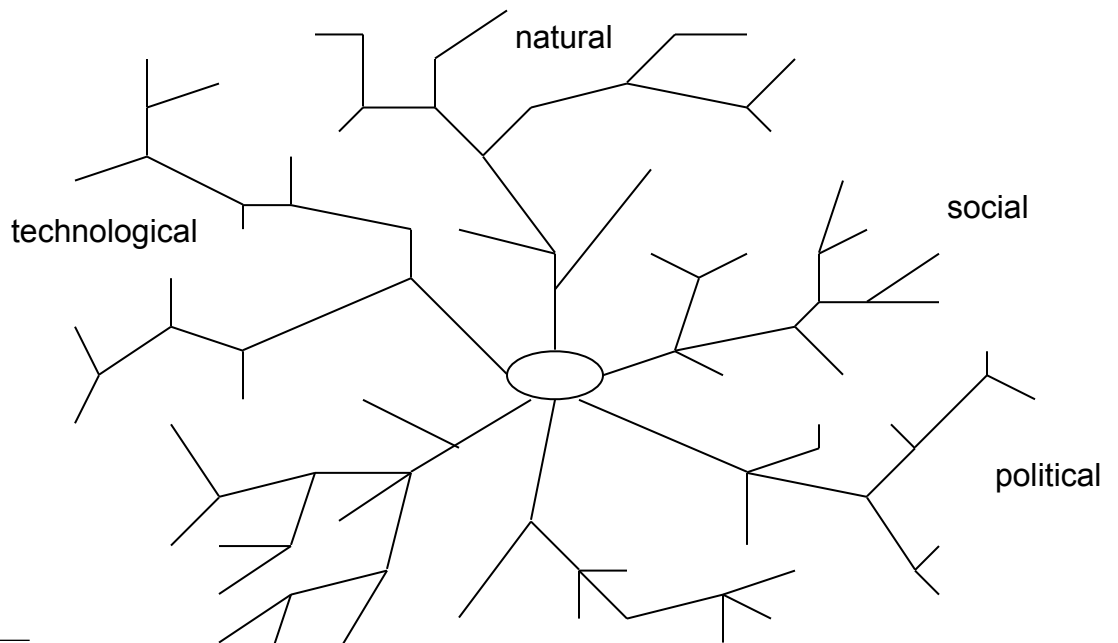




Under these highly contingent circumstances, strategic development is not a matter of “corrections” to achieve the ideal but of designing plans that are either adaptive or generative in nature – that allow the organizational system to re-organize itself either in order to deal with the challenges that external changes to its environment present or in order to possibly effect changes in that environment that would be beneficial to it.

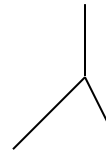
Learning Cycle 2: Mapping the Environment

Before moving to an analysis of ‘future environments’, it is useful practice to start with an assessment of the present ‘state of the world about us’, by collectively identifying the most significant ‘environmental influences’ of each of the NSPECT domain categories through conversation among the participants. Each bifurcation on the map represents an alternative position or an expansion on an accepted position. This conversation mapping process is an exercise in *divergent cognition*⁵



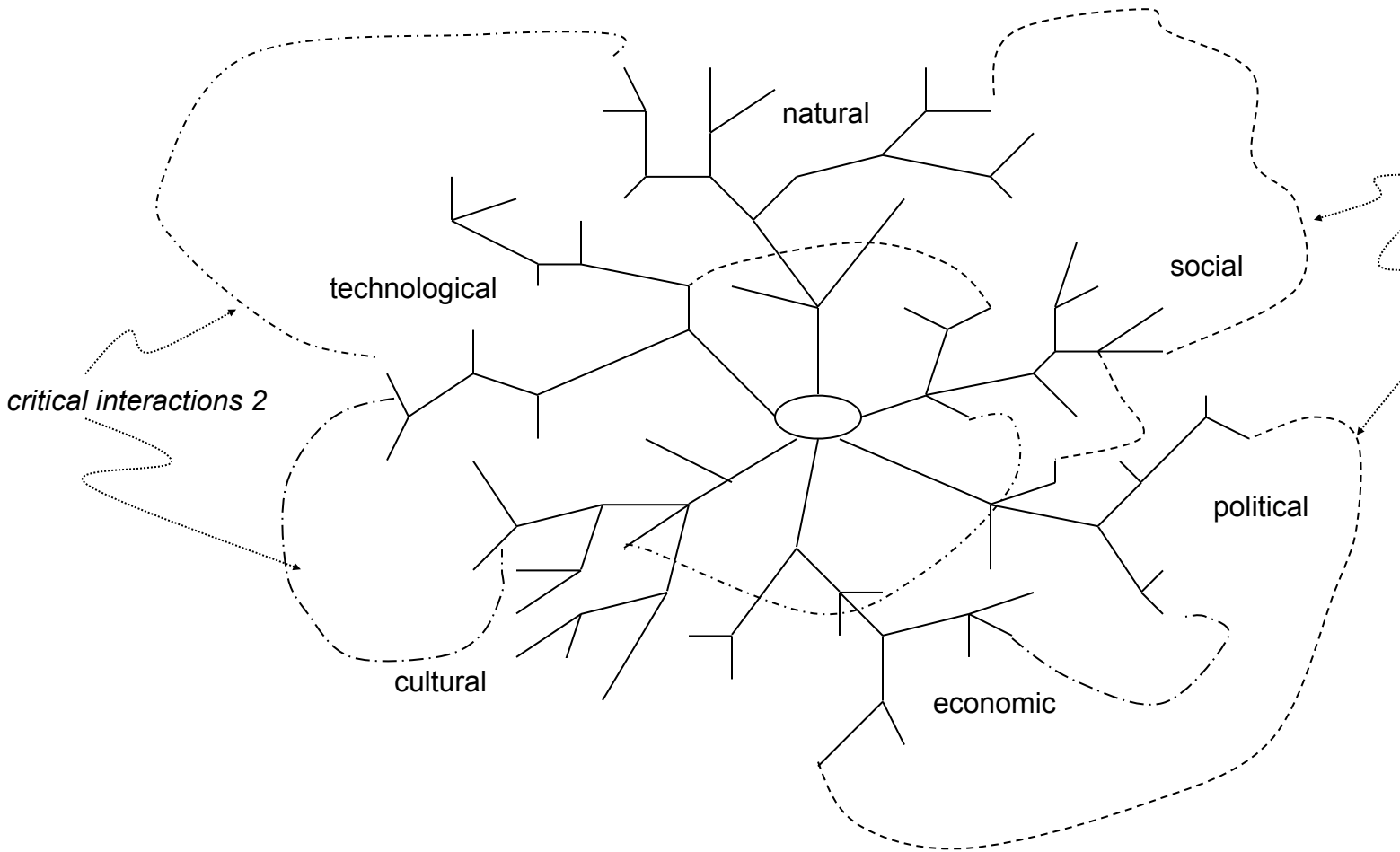
⁵ Inspired by the process of Mind Mapping developed by Tony Buzan: ([Use Both Sides of Your Brain: New Mind-Mapping Techniques, Third Edition \(Plume\)](#) by Tony Buzan 1991)

cultural



economic

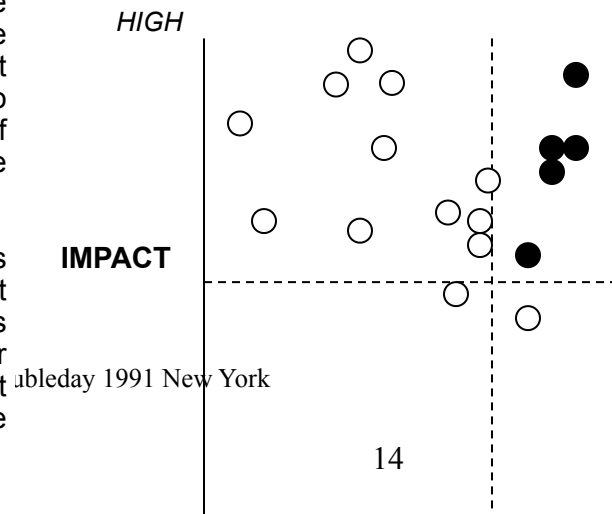
The next step in the process, which represents a shift to *assimilative cognition*, is to identify potentially critical interactions between these influences – not only within each domain category, but also, and importantly, between them – and then to identify different sets of these interactions that represent quite different positions or orientations of key influences and their critical interactions.

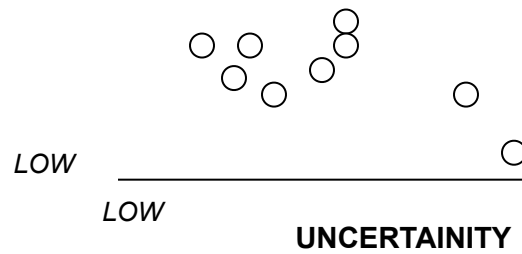


Analysis of Degree of Criticality of Influences⁶

In the divergent NSPECT characterization of any environment, a host of circumstances and phenomena will be identified which by themselves and in association with others, have the potential to influence the system-of-interest in a very wide spectrum of ways – although clearly some would be more significant than others. The central challenge for the learners at this stage in the SLM is to identify those that are most likely to have a high impact on the functioning or strategic intentions of the system, AND which are most difficult to predict or foresee with any certainty.

The task at this stage in the process is to translate the factors of influence (both simple and inter-actional) into a matrix that ‘plots’ degrees of potential impact on the vertical axis and levels of uncertainty along the horizontal. The top right hand corner ‘cell’ of this matrix will yield what represents the critical cohort of influences that will in turn be the foundations of the scenarios.

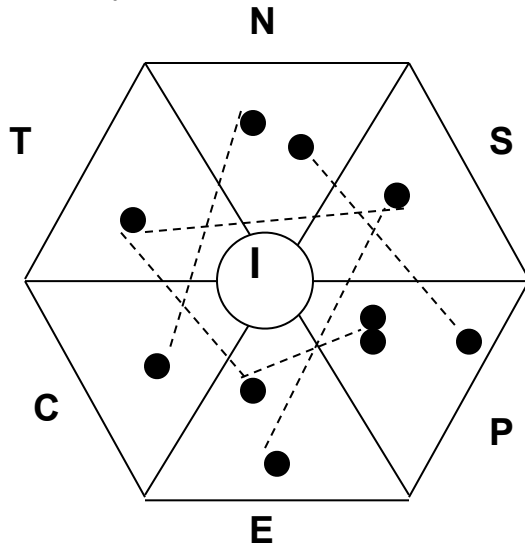




Now there are now three more tasks that need to be accomplished before we turn back to the future.

LOW

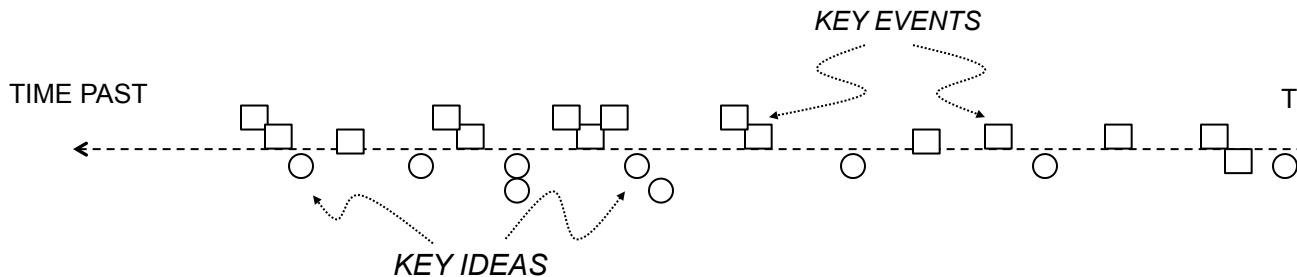
The first of these is to re-map the identified critical influences from the top right hand cell back on to a slight framework (a) to ensure that there is nothing critical that has been omitted from any of the six domains or any that have been missed or understated, (b) to set the foundations for creating a retrospective timeline that indicates what has come to be, through the identification of critical historical events over the past twenty years or so and (c) for an 'epistemic' evaluation of the impact that the worldviews that are prevailing within the group are having on both the criticality of the influences and also on the details of the timeline. This third exercise is an attempt at INSPECT – the 'eye' in the middle!!!



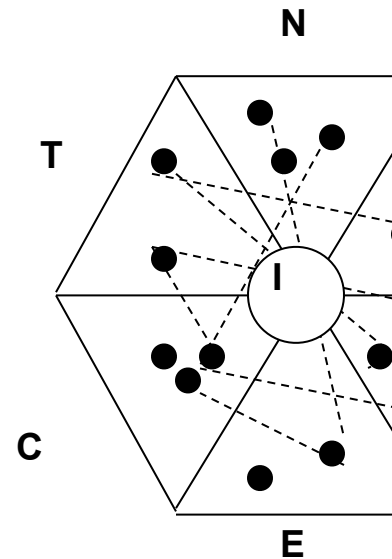
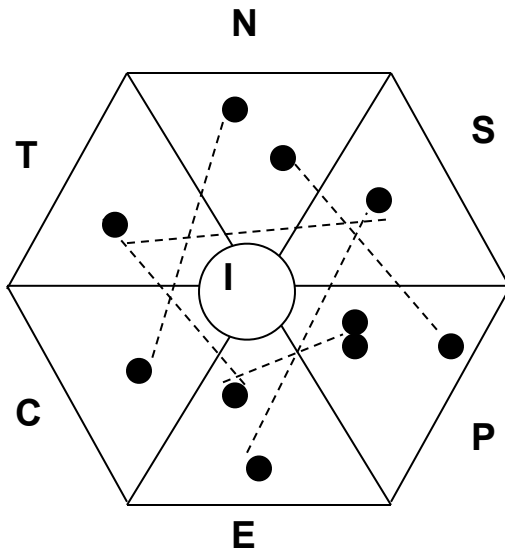
Here the critical influences from the 'top right hand cell' of the uncertainty matrix have been placed on a hexagonal INSPECT framework (with the 'I' inserted into the middle). All of the influences and their interactions are acted upon by those doing the analysis – and therefore open to further expansion).

This is a moment to reconsider any crucial gaps in the interactions that might have been omitted as well as any worldviews within the group have 'distorted' the system of the influences and their interactions at the expense of those that have been identified as less impactful and/or less predictable).

Any identified omissions and/or limiting prejudices need to be rectified before the next task - which is to create a retrospective timeline from the present back to a point some twenty years earlier. Key events (□) that might have influenced the 'history' are identified and mapped along and above the line, while key ideas (○) are mapped along and below the line.



Once these vital 'key events and ideas' have been identified and 'wrapped' into the logic of the current system environment in which the system-of-interest is operating, they are 'interrogated' with respect to alternatives: such-and-such happening as it did, that something else had happened with quite a different outcome? How might it have turned out differently under these different *counterfactual* circumstances? This alternative present is then mapped onto the uncertainty matrix and subsequently inserted into another 'INSPECT' hexagon. This second present is then contrasted with the one that has actually unfolded – it might differ with respect to different expressions of the system with some different events and/or different interactions.



'ACTUAL' PRESENT

COUNTERFACTUAL PRESENT

With this 'dummy run' on the present state of the environment is complete (including the generation of its NSPECT-ing exercise is changed from the present to some agreed date in the future (usually between hence) the 'environmental scan' is repeated in such a manner that three or four different scenarios function of (a) different expressions of the same influence (equivalent to the counterfactual positions present key influences at work, and/or (c) the nature of different inter-relationships within and between the different

The guiding principles here are that the scenarios should be systemic in their comprehensiveness, pl circumstances that they portray, singularly different from each other, and rigorous with respect to their log their timelines).

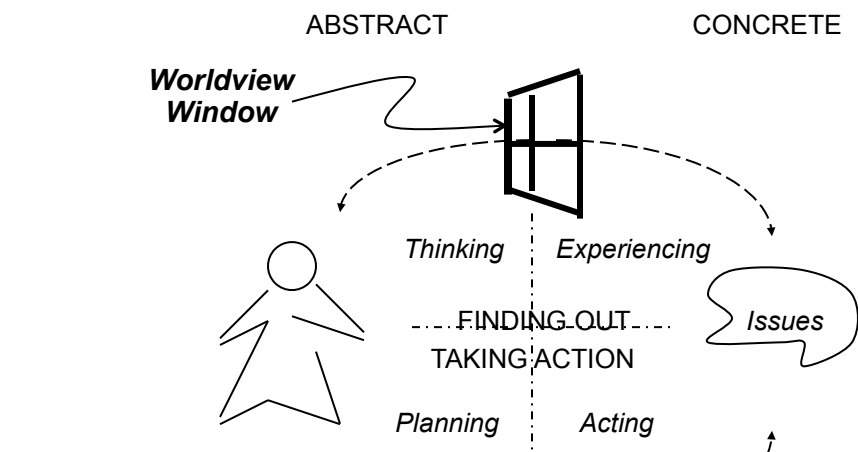
The key to creativity during the divergent NSPECT-ing part of the scenario generation learning cycle, critical (and animated) discussion about, points of bifurcation that arise within and between the influence

II - The 'eye' in the Middle: Exploring the Nature and Significance of Worldviews or Weltanschauungen or Epistemes

As emphasized earlier, every item that is identified within the NSPECT framework, every attempt to make connections between influences, and every rating of influences according to their potential impact, is a reflection of the worldviews of those who are involved: They are **interpretations**. The importance of worldviews (often also referred to as 'windows-on-the world', or lenses, or prisms, or more technically as *Weltanschauungen* (a German word), or meaning perspectives, or paradigms, or mental models, or, from the Greek for knowledge, *epistemes*. Whichever word is used, the concept refers to the idea that whenever we try to make sense out the world about us – attempt to transform our experiences into knowledge as the basis for adaptive action - we do so from a mental position that is greatly influenced by a set of beliefs and values, biases and prejudices that, for the most part, we are not even aware that we hold. Yet it is through this 'mental perspective' that we filter every one of our experiences and our thoughts in ways that profoundly affect our planning and the actions that we take using those plans.

Everything that we *do* in this world as individuals is function of the way that we *interpret* our experiences of the world about us and every interpretation is a reflection of our own idiosyncratic 'window-on-the-world':

And it is to the nature and significance of our worldviews that we now turn in a little more detail – we need to put the [i] back into NSPECT!



On page 3 above, we introduced a model of the idea of groups of people learning from each other through a collective process of activities (a) experiencing, (b) thinking while *planning* and *acting* represented different cognitive activities related to the “concrete” world. We further presented the notion that these were products of the world of “mental mind, as it were.”

In the model on the left, we show an individual sense out of an issue that she/he is experiencing, but now with a ‘worldview window’ that *experiencing* and *thinking* are both of a perspective which in turn, influences personal *bag of tricks* (set of competencies).

It is useful to think about worldviews as being composed of four different sets of beliefs, respectively about:

- (a) the nature of nature (‘reality’) - referred to in the literature as *ontological* beliefs;
- (b) the nature of knowledge (and how we come to know it) – our *epistemological* beliefs;
- (c) the nature of human nature (especially with regard to values such as ethics, aesthetics etc) -
- (d) the nature of the cosmos and of human spirituality with respect to it – our *cosmological* beliefs.

Perhaps the most obvious of these to us in our everyday lives, is the axiological domain – where differences in values between different individuals are frequently exposed. What some people accept as perfectly acceptable behaviour is quite abhorrent to others – think of something really simple such as driving beyond the speed limit: Some would regard this as no big deal at all – just bucking some trivial rules of the road - while others would see this as a manifestation of a much more profound issue of disregard for the rule of law and an assault on the very essence of societal order that lies at the heart of Western civilization. Or, on a higher order of concern these days, one person’s freedom fighter is clearly another’s terrorist; one person’s prison as an institution for the punishment of society’s baddies is another’s rehab centre for the treatment of those who have temporarily strayed in their behaviour; one person’s economic view is neo-liberal while another’s is Marxist. Are we concerned about our own welfare even when it might threaten that of the community at large, or are we so community oriented that we put the wants and feelings of others at least on a par with our own if not even beyond it? Are we committed individualists or communalists?

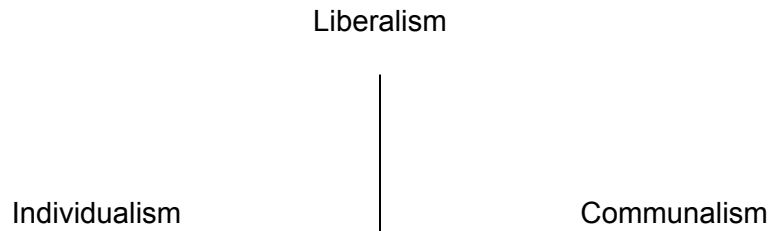
We can portray opposing positions, as suggested by the examples above, as opposite poles along particular value dimensions: Thus in the last example we can show these two positions as representing totally polarised beliefs:

Individualism

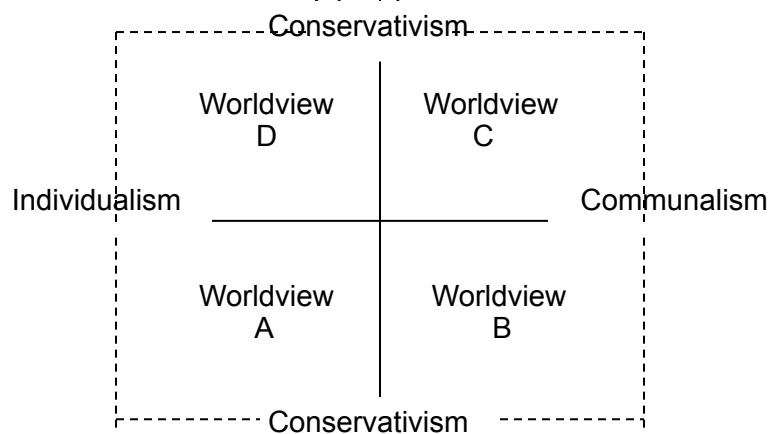
Communalism

The same structure can be used to illustrate a whole host of value positions as polar opposites – where the holders of particular beliefs are in direct opposition to the holders of different beliefs. And we can use this idea of polar oppositions to express the idea of worldviews as the

interactions between different sets of opposed beliefs as portrayed along different axes as in the matrix below:



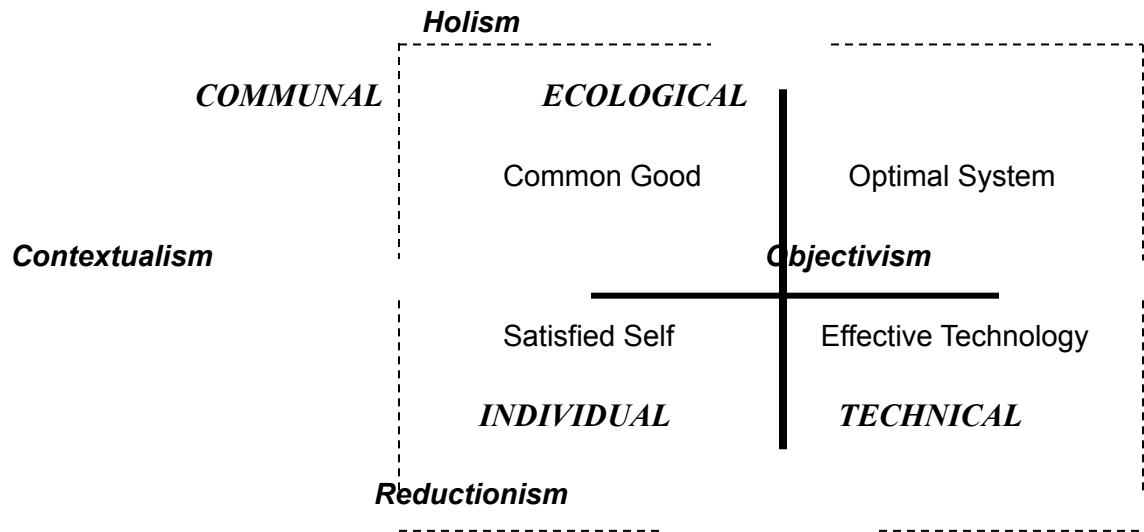
Joining these two axes together as in the illustration below yields four different worldviews represented by each of the four cells of the resultant matrix:



And that's just for two pairs of values! Imagine how many worldviews really is when we integrate our axiologies (value beliefs) with our ontologies (beliefs about the nature of nature) and our epistemologies (beliefs about the nature of knowledge) and our cosmologies (beliefs about the cosmos and the spiritual place of humans within it).

Without usually even being aware of the four different dimensions or domains of beliefs, or our actual positions with respect to each, we go about our learning as 'victims' of them. We are constrained in our experiencing, our thinking, our planning and our action taking, by ontological positions that we hold, for instance, about whether we approach issues from what we might call a holistic perspective, or from a reductionistic stance. In other words, in any given circumstance do we approach particular circumstances or issues with a sense of their wholeness and interconnectedness (a holistic stance where the underlying belief is that whole entities have properties that are unknowable through any study of the component parts) or from a perspective that focuses on the individual component parts (a reductionistic stance where the underlying belief is that all entities can be known through a study of their component parts)? And with respect to knowledge (our epistemological positions) do we assume that the only knowledge of value is that which can be 'shown to be true' (an objectivist epistemology) or are we content to accept that 'truth' is context bound (contextualism)?

Here's a worldview matrix that integrates these two ontological beliefs with the two epistemological beliefs. The resultant four worldviews can all be easily recognized in the positions that different people hold at the present with respect to the phenomenon of global climate change with each in turn, hinting at four different responses to any proposed legislation with respect to carbon emissions trading for instance.



There are technical terms in the literature for each of these four very distinctly different worldviews which will very often surface, and have profound impacts in Scenario Learning exercises:

