The Perspective of the Entrepreneur

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ABSTRACT

What is the perspective of the entrepreneur and what does it share with the foresight perspective? The hypothesis to be discussed in this piece is that both the foresight and entrepreneurial perspectives are "meta-cognitive" stances. They allow one to step outside habits of mind and by doing so increase the awareness and range of decision choices. Environmental scanning is discussed as an exemplar of a “breadth” perspective. A layered approach to consciousness is discussed as an exemplar of a “depth” perspective.
1. TOWARDS FORESIGHTFUL ACTIONS

Human beings have a highly developed sensory mechanism that has an enviable record in the accuracy and perspicacity of its insights. This mechanism is not taught to students at school nor do parents have to show their children how to use it. This mechanism is probably as old as humanity and is almost certainly accessed by people from every culture on the globe; it gives a decision-maker almost complete certainty into how a critical matter should be resolved. Yet, powerful as this mechanism is, it cannot help anyone facing a decision right now, at this very instant in time. What is this remarkable—yet flawed—mechanism that each of us has? It is hindsight.

Everyone can testify to the salience of their own flashes of hindsight, about how our hindsight is “20-20” perfect. There is not much of a future in an Institute that is devoted to teaching people how to use hindsight. So, in true entrepreneurial fashion, for the past five years we have been teaching individuals about the philosophy, methodologies and implementation of hindsight’s antonym, foresight. We readily acknowledge that hindsight is central to learning. It is indeed wise to learn from the past, for “many human groups have perished through improvidence[,] the men who have peopled the earth are the prudent ones” (de Jouvenel, 1967, p.6). Experience, however, operates best in the realm of preceded situations. When individuals or groups encounter situations that share similarities with earlier times, previous experience is likely to be a good pathway to prudence, while improvidence will likely follow from ignoring the experiences of the past. However, if the circumstances change from preceded to unprecedented, the pathways to prudence should be inverted as well.

Human experience has developed generation after generation but it cannot tell us about the consequences of unprecedented situations, thus we are moving into a most dangerous and unstable period in history without the adequate means to look ahead and steer carefully (Slaughter & Garrett, 2002, p.353).

Yet an examination of human behaviour suggests that a salutary oxymoron exists: “Unfortunately there is an indissoluble relationship between foresight and experience[,]... we require the latter, it seems, before the former will be seriously engaged” (Slaughter, 2002, p.353). The Australian Foresight Institute (AFI) was created for the express purpose of creating a different thinking capacity than one based solely on hindsightful experience. Still, in order to best instil foresight in individuals and their organisations, we had better understand what the pathways are that lead to foresightful actions. It is our findings about the pathways to foresightful action that we believe also offer potential insights into the study of entrepreneurial action.
2. THE PATHWAYS TO FORESIGHTFUL ACTION

The central interest of those promoting foresight as an approach is not merely that we should think about the future. Rather, and more importantly, we should act with the future in mind. Likewise the study of entrepreneurship shares the idea that it is the promotion of entrepreneurial actions that really count. As an anonymous respondent to the Global Entrepreneurship Monitor commented: “I think we’re very smart coming up with ideas, I don’t think we’re smart translating them into outcomes” (Yencken, Rushworth & Hindle, 2004, p.237). Improving our understanding of the pathways to foresightful action, or to entrepreneurial action, are therefore useful only so far as a better understanding of the means increases the promotion of the ends.

From the biological perspective all living happens in the present. An animal may travel down a certain path and get eaten by a predator. If it had gone down a different path it might not have been eaten. Did the animal choose its path based upon the possible consequences? “No, it chose according to its desires in the present, because living is in the present. It follows the path of its desires, because desires define what we conserve” (Maturana & Bunnell, 1998, p.6). Yet the biological view is not that we are somehow predestined to do certain things. We can choose our actions; and these choices arise from our awareness of what is going on around us. The quality of these choices is significantly shaped by the information that comes to us via our awareness. Biologically speaking, then, of what are we really aware?

A living system is embedded in its medium. In the course of its existence it encounters only part of that medium; the living system’s niche. This is the part of the medium that the living system is aware of and is what the living system can adapt to. A living system can make choices to act on what it finds or is aware of in its niche. The remaining part of the medium, the part that the living system is unaware of, is the environment (see Figure 1). As the living system is unaware of its environment, there is no knowledge of this part of its medium that can be utilised (Maturana & Bunnell, 1998, p.35).

[figure 1 about here]

Systems are embedded in larger systems, which in turn are embedded in even larger systems. An individual, as a living system, is embedded in a community, family or organisation which is, in turn, embedded in a culture, market or ecology. This does not suggest that a system is controlled by the larger system, rather, the larger system acts as the background. This embedding occurs with a continuous flow of interactions between the system and its backgrounds. The medium of a living system comprises all the systems which encompass it. Only the part of the medium of which the living system is aware comprises the niche of the system.
We often become aware of the systems we are embedded in only when unforeseen circumstances emerge. An organisation learns about an unseen element of its environment when previously unseen NGOs mount a campaign against the organisation’s work or environmental practices in another country. A Chief Executive Officer learns about previously unseen elements of its environment when customers switch their patronage to a newly emergent technology created for an entirely different market. A farmer learns about an unforeseen element in its environment when the local rainfall becomes more variable through the increasing energy consumption of nations halfway around the globe. When the organisation, CEO or farmer becomes aware their niche has “expanded.” They can now adapt to what they are aware of in their niche. This awareness always happens in the present. Was the animal that chose to travel down a particular path and was eaten by a predator blind to this possibility? No, the animal was following its desires in the present and acting according to its awareness. It did not experience the predator—the predator did not become part of its awareness—until it was too late to do anything about it. A system cannot be blind to its own experience, for it either experiences something or it does not. Now, there could be another animal which has more highly developed sensing mechanisms—more powerful sight, smell or hearing—and through these faculties the particular predator could have been experienced at an earlier, and non-fatal, stage. The first animal, the one who finished up as lunch, could be described as being “blind” when compared to the other animal. Blindness is a property which can arise from the observation of another, but is not something that can be directly known by the living system. That is, you don’t yourself know what you don’t know; but you can learn it from someone else.

One formula for biological/organisational/entrepreneurial survival could therefore be considered to be:

Experience → Awareness → Niche → Choice → Decision

If what is experienced does not make us someone’s lunch then it becomes part of our awareness and thereby becomes an element in a potential future decision. Hindsight is thus clearly a function of awareness. It is the luxury of knowing that we should/could have made a different choice, and it will obviously not exist if we have made a fatal mistake because our awareness will have ceased. It is hindsight which informs us that we were lucky this time, and suggests that perhaps the next time we might not be so lucky. Hindsight is also telling us that using foresight would be an evolutionary advantage since it could allow us to avoid potentially fatal decisions before they are made. Foresight, then, is the process of adding to the awareness of our niche, hence giving us more decision choices without the need to actually experience what we are blind to. In other words, we shouldn’t
have to experience the regret of being eaten in order to recognise that the possibility of being eaten exists.

Is an entrepreneur blind in the sense described above? The answer is yes, because the entrepreneur as a living system is only aware of what is in his/her niche. Does an entrepreneur have to be blind? No, there exists the opportunity for the observation and communication of perceived blindness and, by so doing, to transfer information from the environment to the niche. In Figure 1 the system is embedded in its medium: it is aware of what parts of the medium it encounters (its niche), but is unaware of what parts of the medium it does not encounter (its environment). What would an outside observer of the system be aware of? An outside observer can be aware of different aspects of the environment and can extend these to the particular system which is observed. If the system is able to take on board these observations about its environment—viewpoints about the medium of which it is unaware—then that information ceases to be part of the system's environment (i.e. unknown) and becomes part of the system's niche (i.e. known). Importantly, that information can now be used by the system for the purpose of adaptation, increased awareness and better decision-making. By so adapting, a system (or an entrepreneur) can avoid being the next course on the menu.

3. THE META-PERSPECTIVE OF THE OBSERVER

Metacognition is the capacity of the individual to understand their thinking or behaviour "as an operation itself," and thus to see themselves as not only having agency over their behaviours but also agency over the thinking that precedes behaviour.

People are not only agents of action but also self-examiners of their own functioning. The metacognitive capability to reflect upon one's self and the adequacy of one's thoughts and actions is another distinctly core human feature of agency. Through reflective self-consciousness, people evaluate their motivation, values and meaning of their life pursuits ... Among the mechanisms of personal agency none is more central or pervasive than people's belief in their capability to exercise some measure of control over their own functioning and over environmental events. Efficacy beliefs are the foundation of human agency (Bandura, 2001, p.10).

Metacognition, in effect, allows for the assimilation of not only consciousness, but also self-consciousness, with experience and environment. The operations of metacognition itself can also be reflected upon metacognitively, thereby dynamically accelerating the assimilative process.
Thus metacognitive understanding is not a process of intellectually constructing a schema that includes the role of self, but is an ongoing process of progressively deeper insights or realizations that, in turn, lead to an awareness, or conscious understanding of self as agent...the metacognitive, cognitive, and affective systems are more accurately described as subsystems operating in support of the self. They reside functionally under the control of the self as agent—under the control of the “I”—the experience of being and volitional agency (McCombs & Marzano, 1990, p.54).

Metacognition can be described as the process of the self-as-agent—the ability to bring a level of understanding “above” the operations of thinking and behaviour and by doing so create the possibility of consciously regulating the use of these knowledge structures in support of personal goals, intentions and choices. A realization of self as agent automatically leads to self-determined purposefulness (McCombs & Marzano, 1990, p.55).

At the AFI we now understand foresight as a metacognitive process that allows an observer stance to be adopted; by so doing we improve our awareness of environment and niche by providing a sensing capacity in addition to experience. The individual and the organisation that apply foresight do so by taking a meta-perspective on the environment, seeking awareness of what is not within their system’s niche, and by doing so drawn forth additional adaptive choices through an expanded awareness.

The addition of foresight modifies the earlier formula for biological/organisational/entrepreneurial survival as follows:

Experience + **Foresight** \(\rightarrow\) Awareness \(\rightarrow\) Niche \(\rightarrow\) Choice \(\rightarrow\) Decision

Individuals and organisations could choose to rely solely upon hindsightful experience as their opportunity generator. Or, they could decide to add a capacity for foresight to this in order to open up an ability to perceive a greater number of choices and thereby make better decisions. This, we believe, is what foresight offers our understanding of the perspective of the entrepreneur.

4. THE PERSPECTIVE OF THE ENTREPRENEUR

The view inside the niche is the view of the known. Adopting this viewpoint allows you to become more efficient and effective in
adapting to the known. In adapting to the known a system becomes more completely habitually coupled with its niche. Developing habits of mind does have its survival advantages. Organisations and societies are held together by habits of mind, common understandings of the way the world works (Hollinshead, 2002, p.518). This habitual thinking is a necessary evolutionary process as it conserves energy. By working with established boundaries of knowledge less energy is needed to maintain existence. Energy that is freed-up is then available for growth. Habitual thinking increases skill through experiential learning loops that maximise repetition and reduce variation. Habitual thinking also spares the mind’s attention and reduces the cognitive dissonance raised by a sense of strangeness. The sense of stability is enhanced from this viewpoint and it is a more comfortable way of viewing the world, which is another point in its favour. We refer to this viewpoint as the perspective of the manager.

It is commonplace in the entrepreneurial literature to hear the role of the manager being disparaged; however, the foregoing has indicated how the perspective of the manager is a critical element of overall organisational survival. Without it there would be insufficient resilience and stability from which more expansive and risky actions could be taken. It is necessary but insufficient for overall survival because it is also blind to what is outside its niche. If anything appears in that environment, like a predator or an opportunity, then it will not be experienced until it may be too late to do anything about it. What an organism needs to do is simultaneously maintain its niche-awareness while also taking metacognitive stances that seek out its blind-spots. Stepping outside the habits of mind contained in the niche is the perspective of the entrepreneur. Thus, the manager perspective operates inside the niche and the entrepreneurial perspective seeks to move to new viewpoints outside the niche in the wider environment. These are not either/or perspectives. Both are necessary while either alone is insufficient. What then are the attributes of taking the perspective of the Entrepreneur?

The two key elements of adopting a metacognitive stance are to gain both breadth and depth of perspective and thereby expand the available domain of knowledge. Figure 2 is a simple representation of how metacognition would contribute to that knowledge discovery process (Hayward, 2003, p.9). At a particular stage of development an individual can be said to have a current ‘domain’ of knowledge. In terms of their current stage of psychological development this domain is the sum total of all that they could potentially know (shown as the horizontal area marked A). Within this current domain of knowledge there is an area (marked as B) which is that part of the domain they are actually aware of. This is the individual’s actual knowledge of their niche. Further, at the edges of this area of actual knowledge is further knowledge, of which the individual is currently unaware, into which area actual knowledge could expand (marked as C). This is the
broadening of knowledge by increasing the breadth of perspective. This can be likened to employing the same thinking processes to observe more of what is potentially observable. By orienting the existing organs of sensing towards unobserved domains of knowledge additional information is brought forward and the spectrum of choices is widened. A range of foresight processes exist that do exactly this; they will be explained in the next section.

[figure 2 about here]

Deepening perspective is an altogether different process. An individual's psychology constrains them within a potential domain of knowledge unless they can step outside that psychology. If the individual can transform their psychology then a new potential domain of knowledge (shown as A’ in Figure 2) is available. This new domain builds upon the earlier domain but also transcends it. There is, however, a not-so-subtle challenge faced by the individual who would attempt to deepen their knowledge by stepping outside the current domain of knowledge. The current domain is almost certainly the place of the culturally proscribed habits of mind. The existing way of seeing the world is both an individual capacity and a ticket to social membership of that world. See the world this way and you are thought normal and credible. Fail to see the world this way and you could be regarded as abnormal and incredible. To see the world from a new depth is to become aware of the nested systems that individuals and organisations are embedded in. This perspective sees more complexity in the world, finds more nuance in relationships and experiences a loss of certainty.

As the familiar context and cultural habits of mind are dissolved by becoming fully present then certainty gives way to complexity. Certainty is not only transcended, it disappears. From this mindset to hold a belief in certainty would be thought flawed. The complexity in any system is in the eye of the beholder who expects a reality that accords with their internally held concepts. The beholder is surprised when perceived reality departs qualitatively from this expected reality. Surprise continues to accumulate until it creates paradox which then forces the development of expanded concepts, concepts which are held to give order and meaning back to the beholder (Holling, 1994, p.599).

The entrepreneur has a need to see outside the niche in order to raise their awareness-space and identify potential opportunities. The processes that accomplish this are foresight processes. What, then, are the exemplar foresight processes that add breadth and depth to current awareness?
5. FRAMING THE EYE OF THE BEHOLDER

Environmental scanning is the principal means by which an individual or organisation attempts to introduce environmental knowledge into their niche. Choo (1999) lays out the main definitions and situates environmental scanning amongst a variety of similar intelligence-gathering activities. The four main modes of scanning Choo discusses can be conceived of as an attention funnel: broadest at the top (undirected viewing), gradually narrowing down (through directed viewing and informal search) to the narrowest part (formal search) where attention is highly directed and very specifically focussed. With a narrow scanning frame at the outset, we might not even see at all the very signals which our scanning is supposed to detect.

Slaughter (1999) argues for a much wider scope for viewing than is commonly practiced, as well as for an understanding of the deeper layers of meaning and insight to be found below the surface of what is readily seen in conventional environmental scanning. He calls for a move from the largely “exterior” focus presently employed, to a greater emphasis on the “interior” world, offering Wilber’s so-called Four-Quadrant model (Wilber 2000) as an example of such an expanded framework. Simply stated the Wilber model emphasises that there are, at least, four native perspectives that should be considered in order to gather an integrated or “integral” viewpoint. Those four perspectives are an Individual/Interior perspective (the place of individual consciousness, the Upper Left quadrant), an Individual/Exterior perspective (the place of physiology and behaviour, the Upper Right quadrant), a Collective/Interior perspective (the place of culture and morals, the Lower Left quadrant) and the Collective/Exterior perspective (the place of structures and processes, the Lower Right quadrant). This paper will not discuss the Wilber model in any more detail than the foregoing. Readers who are interested in knowing more about this model, and its possible application to the study of entrepreneurship, are directed to our previous paper examining this point (Hayward & Voros, 2004).

The utility of framing environmental scanning through an exterior/interior model like Wilber’s is immediately apparent when one considers the traditional way that scanners attempt to broaden their frame of reference. Scanning for the five so-called “STEEP” factors—Social, Technological, Economic, Environmental and Political—is normally regarded as best practice and gives the broadest perspective of the environment. Yet, when the STEEP factors are mapped to Wilber’s quadrant model (see Figure 3) the narrowness of so-called best practice is revealed (Voros, 2001, p.549).

[figure 3 about here]
The STEEP factors do offer a broad view of a single perspective. To scan using those five factors is broader than scanning on a single factor alone (eg. considering just Technological change). As figure 3 shows the STEEP factors are only examining the Lower-Right perspective, the Collective/Exterior. When this narrowness of perspective is realised the scanning frame can be explicitly broadened to include all other quadrants. In other words, in the remaining quadrants, factors analogous to STEEP could be used to explicitly create multi-perspective breadth in the scanning frame.

In the lower-left, for example, aspects of culture such as ethics, values, morals, philosophy, lifestyle choices, academia and learning, religion, language, etc might form a basis for breadth. In the upper right, lines might include body, medicine, health (physical and mental, the latter from the perspective of the structural health of the brain), and so on. In the upper left, lines might include spirituality (as an individual experience as opposed to organised LL religion), mind/consciousness, self-identity, mental health (from the perspective of a felt sense of a healthy mind), and so on. We not suggesting that this list of factors is by any means definitive or complete. What we are suggesting is that the familiar notion of STEEP factors in the lower-right quadrant (for breadth), has an analogous extension to each of the other quadrants, and that there will be appropriate factors in each of them. A true breadth perspective must consider the quadrant factors that are relevant to the subject at hand.

In addition, Voros (2001) suggested that in addition to opening up the viewspace being viewed, one needs also to understand the extent and scope of the “mindspace” of the scanner doing the viewing, and to take conscious steps to also open it up as well. The key idea, therefore, is to find models of human consciousness and use them to understand what filtering might be going on in a scanner’s mind. Informed by this, one would then seek to become aware of the potential blind spots we might possess as scanners. Having done that, one would attempt to factor these insights into scanning praxis so as to minimise the scanning blindness. In this way, a team effort of diverse scanners can consciously reflect on their preferred mind-sets, and take steps to broaden their views. By doing so they are less likely to miss critical signals than is a homogeneous group of scanners who are unaware of their own potential blind spots, or even that they may possess such blind spots. The predator lurking down the path only needs to be sensed by one member of the group in order for the group to have their collective awareness expanded.

Ultimately, the effectiveness of scanning comes down to what signals out there we allow in here. We all filter the signals we (allow ourselves to) see; this is a necessary survival mechanism — we need to do so in order to function. Recent high-profile intelligence failures reveal, however, that while this pre-conscious filtering is necessary for
our daily survival in a world literally filled with signals, such filtering may also lead to potentially dangerous exclusions of what may turn out to be vital signals. Just because we can't see or sense such signals ourselves, it doesn't mean that what others see is wrong or false or fantasy or illusion or hallucination. Our own personal view of reality (whatever that is) is always filtered, and so we would do well to recall this simple fact when attempting to understand the view or perspective of another. Once we can accept that other people see different things, without discounting the validity of their view, then we are in a stronger position to use other people's work as an adjunct to our own scanning. Otherwise, our work becomes merely the practice of accumulating more and more information viewed from the same perspective. This is hardly a useful, or indeed wise, practice in the long run.

So, as Choo suggests in the title of his paper, scanning the environment really is more of an art than a science. Like art (and beauty), it depends very much on the eye of the beholder. And, we would assert, what that eye sees is conditioned by what lies behind the eye of the beholder, in the interior consciousness of the perceiving subject.

6. THE FUTURE IS PROVOCATIVE

It was pointed out earlier that one of the challenges faced in getting outside the niche's habitual way of seeing the environment is being taken seriously when one's awareness bumps up against the habitual mind again. An idea and approach that we have found useful in communicating foresight ideas is that of the future as a provocation. Of course, provocation has several prior meanings and connotations but the most relevant of which, to us as foresighters, is "a means of arousing or stirring to action". When this word is rendered as "provocation", it can be interpreted to have the additional amusing meaning of a call (as in a "judgment call") made ahead of time, but the real added bonus is its connotation of controversy, which we will explore a bit further below.

Edward de Bono (1995) has come to use this word in his techniques of creativity and lateral thinking. A provocation, as he defines it, is designed to reverse the usual habit of thinking whereby there must first be a reason for saying something before that thing is said. Rather, with a provocation, the statement is made first, and it is the effects and ideas which flow from the statement which provide the retro-justification, as it were, for having made the statement in the first place. In other words, "with a provocation there may not be a reason for saying something until after it has been said" (de Bono, 1995, p.146). The purpose of a provocation is to disrupt rigid, static, hard-edged categorical thinking (what he calls "judgement") in order to stimulate new thinking and new ideas through the use of the mental operation he calls "movement"
"Judgement" is concerned with making evaluations of what is or is not, whereas "movement" is concerned with where an idea leads or flows to. The emphasis on flow and movement describes one of the key characteristics of what getting out of the niche is properly about—to stimulate new thinking ahead of time, or before the fact of experience; *pre hoc*, as it were, as opposed to *post hoc*. Actually, one of the core purposes of foresight, according to emeritus professor of sociology at Yale University, Wendell Bell, is "breaking out of the strait-jacket of conventional, orthodox, or traditional thinking and taking unusual, even unpopular, perspectives" (Bell, 1997, pp.75-6). Indeed, he adds in the very next sentence that "it involves creative and lateral thinking in order to see realities to which others are blind".

In a related vein, Jim Dator (1996) suggests, in his semi-comical Second "Law" of the Future, that "any useful idea about the future should appear to be ridiculous". That is, that any truly useful idea—or, we would suggest, any statement, spoken or written—should be inherently provocative by nature, because

decision-makers, and the general public, if they wish useful information about the future, should expect it to be unconventional and even shocking, offensive and seemingly ridiculous (Dator, 1996, p.xx).

Thus, in Dator’s view, the greater the degree of hostility and ridicule generated by a foresighter’s, or entrepreneur’s, statements about the what is outside the niche of the habitual mind, the better they are doing their job, for “to be useful, they should expect to be ridiculed” (Dator, 1996, p.xx).

In summary, in order to broaden the existing domain of knowledge the scanning frame must seek to find *multi-perspectival* breadth. Having done so the next challenge is to allow movement “with” the phenomena that arise from such scanning, noting the common tendency to want to use “judgement” about what is viewed. By suspending judgement the mind can allow the provocation to lead to expanded awareness. The next element is to be ready and willing to be thought ridiculous. When you next encounter the response of “that cannot be right”—which comes from self-censorship or the censorship of the socialised habitual mind—congratulations! For, you have just bumped into the edge of your, our your audience’s, niche.

7. FINDING THE DEPTHS OF OUR INTERPRETIVE “STRATA”

New domains of knowledge are encountered when the current constraints of consciousness are transcended. It is much easier to make this statement than it is to actually achieve what it speaks of. It is
beyond the scope of this paper to suggest how one goes about transcending the constraints of consciousness. Instead we offer a methodology for understanding what constitutes the depths of consciousness. While such an understanding will not of itself create transcendence, it does allow a degree of precision to enter any subsequent conversations about what deepening actually involves.

This methodology has four strata of consciousness (Voros, forthcoming):

1. external artifacts or *constructs* of consciousness. That is, regularities or effects perceived to exist in the outside objective world, such as surface trends and patterns, and deeper systemic drivers of change, as in the well-known systems iceberg model;

2. internal artifacts or *contents* of consciousness. For instance, the particular mental models and/or specific mindsets and worldviews we possess, such as scientific, economic, environmental, ecological, communitarian, conservative, traditionalist, and so on. These contents of consciousness give us the stock of conceptual models, images and metaphors which we use to make sense of events taking place in the world and to construct the artifacts of consciousness above which are perceived to exist in the outside world;

3. internal processes or *capacities* of consciousness. That is, the types of adaptive intelligences, structures, modes and functional processes which operate within our consciousness. The form and manner of these processes or structures define, in a sense, the overall possible shape and character of the specific contents at the stratum above. These structures are not necessarily rigid or fixed for all time; rather they can be somewhat malleable and may change over time. And,

4. external *conditions* of existence or life *conditions*. These are environmental, social, cultural and other factors and processes which may be short- or long-term. They may shape, challenge and even bring forth the internal capacities at the stratum above.

There can be multiple layers or sub-levels within each stratum. For example, the usual systems iceberg metaphor generally focuses on the top-most stratum (constructs): patterns and trends underpinned by deeper drivers and system structure. While this two sub-layer progression does represent a deepening of the analysis, it nevertheless remains within the single stratum of "constructs" perceived to lie outside of consciousness in the external world. The systems iceberg model touches the second stratum ("contents") when it undertakes
considerations of “mental models”, which is clearly a shift from external artifacts to internal models within consciousness.

At this point, a metaphor might make the four main strata clearer (to use a metaphorical/visual mode of thinking). Imagine a broad, slow river flowing in a wide, flat river valley. We may observe various currents and swirls (constructs) moving across the surface of the river. Below the surface is where the deeper currents operating in the river lie (contents), whose motion influences the surface currents we see. Defining the overall shape and path of the water's flow and the limits of the motions of the deeper currents are the shape and structure of the banks and bed of the river (capacities). And, potentially altering the direction and lie of the river bed and banks are broader-scale environmental and geological processes (conditions).

This metaphor also suggests another important aspect of the model—each deeper stratum has a longer characteristic time-frame of change associated with it, and is correspondingly fuzzier with respect to fine details.

Table I lists the main interpretive strata, and shows some representative elements from the several sources already mentioned in order to provide an intuitive feel for the contents of each stratum (Voros, Forthcoming).

[Table I about here]

Legend has it that the phrase “know thyself” was inscribed above the entrance to the Temple of Apollo at Delphi in ancient Greece. It is interesting because, being placed outside and above the entrance, it is clearly an injunction to those who enter. This temple was the workplace of an Oracle who was supposed to have been able to see the future, and anyone who lays claim to an ability to see the future is certainly operating outside the niche of the habitual mind! It is also interesting because it did not say “Entrance”, or “The Oracle is [IN]”, or “American Express cards welcome”, or anything like that. Rather, it tells the person entering to be aware of self—to know themselves—before inquiring or trying to know more about the future. Why? What has knowing thyself have to do with hearing the Oracle declaim on the future?

Perhaps it is because the Oracle’s pronouncements were always ambiguous. The key point, one might argue, is that the Oracle’s words had to be interpreted, for they were not simply statements of soon-to-be objective “fact” in the naïve sense of positivism. No, the Oracle’s pronouncements needed to be interpreted for their relevance to the seeker; and thus, because interpretation was involved, the mechanisms of interpretation within the seeker needed to be understood by the seeker. The Oracle was a possible source of information about the future, and seekers needed to be aware of their own subjective biases and filters (i.e. contents and capacities), with respect to the information...
coming from the Oracle. If they were not aware of these—that is, if they did not heed the injunction to know themselves—then they might interpret the sayings of the Oracle in ways that could be of limited or no utility, or possibly to their detriment.

And thus we need to know more about the way our interior consciousness is or may be constituted. This means being able to reflect upon our own thinking and cognition by objectifying the subjective filters and interpretive frameworks—the contents and capacities which lie within—which our consciousness uses to make sense of the world—via the constructs and conditions which we perceive to lie without. The four interpretive strata of the above model are meant to provide one possible means for doing so, as just one example of the many ways there are to understand the many ways we seek to understand.

8. SUMMARY

This paper has covered quite a deal of territory. It commenced from the proposition—or was it a provocation?—that, while hindsight is useful, humans need foresight to see outside their niche. By doing so knowledge domains can grow, opportunities can be found and choices created. The entrepreneur, like the foresight practitioner, needs ways of seeing or perceiving which broaden and deepen awareness of what is in our environment that we are currently blind to. It has shown a way of framing how we scan the environment so that we get maximum coverage. It has suggested a way of suspending judgement and responding to criticism that does not shut down our ability to think in un-habitual ways. Finally it has shown a way of understanding how our consciousness is constituted in order that we can adopt a metacognitive perspective on that process as well. In short we have tried to emphasize the elements that we believe could assist or expand the perspective of the entrepreneur. If that seems like a ridiculous idea then we have without question been a success!

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REFERENCES


Hayward, P 2003, “Resolving the moral impediments to foresight action”, Foresight vol. 5, no. 1, pp. 4-10.


Hollingshead, M. 2002, “The brain, the mind, and societal and cultural learning: the emergence of a new paradigm of futures research”, Futures vol. 34, no. 6, pp. 509–21.


Slaughter, RA 2002, “Futures studies as a civilizational catalyst”, Futures vol. 34, nos 3-4, pp. 349–363.


