Towards an 'Integral' View of Entrepreneurship*

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Abstract

A scan was undertaken seeking published work which has made use of foresight thinking, theory and/or concepts in entrepreneurship theory or research. It was found that there are several areas where these two fields could fruitfully interact and generate many new research directions. The connection between entrepreneurship and foresight represents an opportunity for a collaborative investigative program involving researchers in both foresight and entrepreneurship.

Keywords: futures research, foresight, entrepreneurship research, Wilber integral model

Introduction

Anecdotal evidence collected from speaking with Master of Entrepreneurship and Innovation students who undertake subjects within the Master of Strategic Foresight program at Swinburne University suggests that Futures Studies as a domain of activity has something to offer entrepreneurs and entrepreneurial action. Direct experience in the classroom has shown us that a foresight perspective can be of assistance to students of entrepreneurship; in particular, the ability to "see things differently" by using "futures thinking" is something they report as very attractive and useful.

A great deal of research has been undertaken on entrepreneurs and on attempting to understand the ways they recognise opportunities as well as the attributes that are required for an entrepreneur to be successful (e.g., Alvarez, 2005; Ma & Tan, 2006; McKelvey, 2004; McMullen & Shepherd, 2006; Ucbasaran, Westhead & Wright, 2001; Yamada, 2004). Some of these attributes are considered "natural" or inherent in that they are aspects of personality that may not easily be learned or

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taught (i.e., they are pre-existing psychological factors). But there are other attributes reported–such as the ability to form and communicate a "vision" of the venture–which could, in principle, be fostered through the use of foresight thinking and methods.

Futures thinking underpins or "sits behind" all human endeavours which, whether implicitly or explicitly, use the concept of "future". These include such activities as planning, management, strategy, policy development, leadership and, of course, entrepreneurship. In this very real sense, futures thinking is absolutely foundational to all meaningful and purposeful human agency.

It is interesting to consider the connection between Futures Studies and Entrepreneurship as domains of human activity as a possible ground for an investigative program. The purpose of this paper is to report on a preliminary study which addressed one sub-aspect of what a more developed form of such an investigative program might undertake.

The guiding question was this: How might futures/foresight theory and research inform and/or cross-fertilise with entrepreneurship theory and research? To this end, a literature scan was undertaken seeking work which has addressed the explicit use of foresight thinking, theory and/or concepts in entrepreneurship theory or research.

The author is a newcomer to entrepreneurship research, so this paper comes from the perspective of "beginner's mind". This expression is drawn from Shunryu Suzuki-roshi: "In the mind of the beginner, there are many possibilities." In this sense of "beginner's mind", this paper is intended to draw out and reflect upon some new possibilities for collaboration on research into the connection between foresight and entrepreneurship.

In the next section, the method used for a preliminary scan of literature which may intersect these two domains is described, as well as the main findings. Some recent advances in the futures/foresight domain are described, and a discussion follows about how these might have some relevance to entrepreneurship research. Wilber's "integral" model of consciousness and knowledge inquiry is then used to suggest some elements which might be found in a more integrated or "integral" view of entrepreneurship research.

Literature Scan: Method and Findings

Method

A scan was made using three of the largest on-line abstracting and indexing databases currently available: Scopus; ABI/Inform; and Web of Knowledge. Coverage varies within each database, so a three-fold search was undertaken in order to make the scan more complete, and to (literally) triangulate the scan hits. In addition, these databases index the major journals in Entrepreneurship and Futures Studies, as well as the general management literature. These include: *Journal of Business Venturing, Entrepreneurship Theory and Practice, Academy of Management Review, Journal of Management, Strategic Management Journal*, as well as several others, and the journals: *Futures; Foresight;* and the *Journal of Futures Studies*.

Searches were carried out on Title, Abstract and Keywords for records which contained matching partial keywords drawn from numerous possibilities, and were

restricted to scholarly journals, especially those which are peer-reviewed. These included wildcard searches on various combinations of, for example: foresight*, entrepreneur*, vision*, strategy*, future*, venture*, and several other related words. This approach had the advantage of locating work that makes use of foresight-related concepts or ideas but which might not explicitly indicate this. It had the disadvantage of generating a number of spurious hits which had nothing to do with foresight or foresight concepts.

The main problem with attempting to gauge the use of foresight concepts using keyword searches in the non-Foresight literature is that they are rarely listed as such. This reflects a much wider issue in the area of foresight praxis: Because futures thinking is such an intimate and largely implicit aspect of our daily lives, the conscious recognition and use of it is a bit like a fish suddenly recognising that it swims in water. For this reason, foresight practitioners often have difficulty in their conversations with decision-makers about the use of foresight tools and methods–the decision-makers frequently say something along the lines of "But I do this all the time, anyway, so what's the big deal?" While it is true that foresight, as a basic human capacity, is present in most people, this is almost always an unreflexive, unconscious process. The weaknesses inherent in this sort of thinking are most often only visible in hindsight after some sort of mistake or failure. This is hardly a wise approach to making decisions or setting policy. One can only hope that this situation will change over time so that foresight thinking becomes more widely used in decision-making.

Findings

It is impractical to go into all the details of all the searches carried out so, instead, here are some indicative numbers for the major findings in the search results. The search on foresight* AND entrepreneur*, designed to capture terms such as, for example, foresight, foresightful, entrepreneurship, entrepreneurial, and entrepreneurialism, yielded less than two dozen or so hits. These will be considered in detail below. Another search using vision* and entrepreneur*, to capture such terms as vision and visionary, in addition to those listed above for entrepreneur*, yielded around two hundred or so hits, of which roughly half used the terms in a way which might be consistent with the desired sense. Typical articles in this class include: psychology-based research, such as Baum, Locke and Kirkpatrick (1998), and Baum and Locke (2004); models of entrepreneurial intentionality, such as Bird and Jelinek (1988), Boyd and Vozikis (1994) and Krueger, Reilly and Carsrud (2000); and a large group dealing with corporate vision, such as El-Namaki (1992) or Lichtenstein, Dooley and Lumpkin (2006). Subsequent and more detailed work than the preliminary scan reported here could obviously dig deeper into this category. Using a term such as "futur*" in combination with others generally yields on the order of one or two *thousand* hits, many if not most of which appear to be useless from the point of view taken here–they usually made reference to either the necessity of some sort of entrepreneurial activity for success in the future of a business or region, or to the need to carry out more research on entrepreneurship in the future.

Low and MacMillan (1988) described five main levels of analysis at which entrepreneurship research has taken place: individual; group; organisation; industry; and

society. These levels of analysis are useful as a way to examine articles found which have dealt with the overlap between foresight and entrepreneurship. More recently, Davidsson and Wiklund (2001) examined how the emphasis on the different levels had changed over a decade. They found that the great majority of research deals with individual- or small-group-level entrepreneurship–as compared with higher levels, such as industry or national/regional–and that this emphasis increased from around 60% in 1988/89 to nearly 80% in 1998. They also noted that all levels of analysis are intertwined–sometimes directly, sometimes less so–so that there is good reason to integrate the different levels of analysis in any empirical research. Their terminology sometimes differs slightly (e.g., "team" rather than "group"), and they also introduce the slightly ambiguous "regional" level of analysis–in continent-spanning countries like Australia and the USA, "regional" means something like "above industry and below national", while in Europe, it can mean something quite different. Interestingly, from the point of view of a foresight researcher, one notes that they "strongly suggest that entrepreneurship as a scholarly field retains its interest in societal-level outcomes" as a way of enhancing its "academic credibility beyond the hype" (Davidsson & Wiklund, 2001, p.95). This view has strong resonances with a good deal of recent foresight research.

At the individual level, there are several authors who consider the role of the personal psychology of the individual. Hayward and Voros (2004) considered two theories of developmental psychology as a way of attempting to generate insights about how psychology may affect entrepreneurial motivation. The consciousness model of Ken Wilber (1999-2000) was also used there to frame entrepreneurship from an "integral" perspective. This approach will be built upon below. A related approach is that of Morrow (2006) who considered the utility of Hope Theory, and of how it could contribute to an understanding of both foresight and entrepreneurship, thereby potentially enriching insights among and between these disciplines. Fontela, Guzmán, Pérez and Santos (2006) examined entrepreneurial activities which emphasise anticipation and the art of futures exploration, and found that there are important elements to such activities that might be considered artistic, aesthetic or creative. The phenomenon of intuitive perception of future events has been examined empirically in the context of entrepreneurial intuition (Bradley, 2006 & 2007), and the experimental results reported so far suggest that both the brain and the heart are involved in such intuition.

A few authors have considered the juncture of the individual and group levels of analysis. Mosakowski (1998) considered how individuals and small groups or teams acted creatively and with foresight within a larger organisational context. Using Agency Theory, the effect that various organisational characteristics had on individual and team entrepreneurship forms was considered, and related to extant research on corporate entrepreneurship and organisational forms. Perhaps the most prolific researcher in the area of foresight and entrepreneurship is Ted Fuller, who, with several collaborators, focuses on the individual/small group/small enterprise range of analytic levels, but who has also considered effects at higher levels than this. He initially considered (Fuller, 2000, p.79) how individuals and small groups of people could prosper through legitimate economic activity, and noted that entrepreneurship as "a praxis of knowing and doing, of anticipating and acting" was precisely where

"foresight becomes alive." The relative utility of foresighting methods to the sustainability of small firms was also investigated (Tilley & Fuller, 2000). This led to a view of small enterprise dynamics, including entrepreneurial activity, through the lens of complexity science and complex adaptive systems (Fuller & Moran, 2001). (The use of complexity science in entrepreneurship itself was considered by McKelvey, 2004). Central to future success in this view is the nature of the relationship which the individual owner-entrepreneurs maintain with their close stakeholders (Fuller & Lewis, 2002). In 2003, he edited a special issue of the flagship journal of the futures field, *Futures*, on small business futures (Fuller, 2003b), in which he noted that the rise over the centuries of business from individual artisans and owner-managers to managerial corporations has been legitimised through reflexive social notions of entrepreneurship (Fuller, 2003a), highlighting the importance of effects at the social level of analysis. Subsequently, he sought to make links between foresight as an interpretative process, entrepreneurial competence, and sustainability of the enterprise (Fuller, Argyle & Moran, 2004). This work considered personal and organisational perspectives, and a case study was narrated by one of the entrepreneurs. Most recently, he examined the idea of entrepreneurship itself as foresight, through a complex social network perspective (Fuller & Warren, 2006), and investigated the links between social capital, symbolic capital and responsible entrepreneurship in the context of small and medium enterprises (Fuller & Tian, 2006), where it was found that social relations were a powerful force for ethical behaviour.

At the industry level, the well-known work of Hamel and Prahalad (1994a,b) refers frequently to the need for organisations to use "industry foresight" in order to successfully "compete for the future" against others in the same industry. In this view, the future is seen as a competitive space in which an organisation can take up a dominant position, an idea which resonates with the "positioning" school of strategy (e.g., Mintzberg, Ahlstrand & Lampel, 2000). This work is largely about foresight as a core competence and a form of strategy-making (cf. Major, Asch & Cordey-Hayes, 2001), rather than about foresight and entrepreneurship as such. In a related paper, Hayward (2006) has addressed the question of how the use of foresight processes by governments might foster the creation of better entrepreneurship policy which could operate over the whole range of analytical levels from individual to organisational to social/national. The paper by Fuller-Love, Midmore, Thomas and Henley (2006) examined the use of a foresight method, scenario analysis, as a way of improving the efficacy of policies supporting rural entrepreneurship, so it too used a mix of analytic levels, but focussed most clearly on the "regional" level of Davidsson and Wiklund (2001). Cariola and Rolfo (2004) looked at how regional foresight policy initiatives in Europe combined with a more multidisciplinary understanding of entrepreneurship might generate a type of regionally-based "strategic entrepreneurship."

In the entrepreneurship field, there seem to be several ways to conceive of the "social" level of analysis. One is the influence on entrepreneurial activity of social factors (e.g., Davidsson, 2003). There is also a growing view of entrepreneurship as a "social" process amenable to study by sociologists (e.g., Dobrev & Barnett, 2005; Downing, 2005; Thornton, 1999), including even the entrepreneurship scholarly community itself as a field of study (e.g., Gartner, Davidsson & Zahra, 2006). Another is

the notion of entrepreneurship for social outcomes or with a social agenda in mind. This latter is usually called "social entrepreneurship" (e.g., Roper & Cheney, 2005; Weerawardena & Mort, 2006). It is in this category that some limited use of foresight has been reported in the literature. The paper by Fuller and Tian (2006) mentioned above deals with social-level factors which in turn influence the use of foresight in entrepreneurship for the social good. Kahane (2001) describes how foresight methods, such as scenario planning, were used in a variety of situations, including their famous use in South Africa in preparation for the transition out of apartheid (Beck & Linscott, 1991), for which he was one the primary process facilitators. In Kahane's view, entrepreneurs should make more explicit use of foresight methods, and use these for the wider social good, which is one of the lessons they can learn from social activists. And in this vein, some recent work has sought to use foresight, innovation and entrepreneurship as tools to aid in the empowerment of youth (O'Connor & Ramos, 2006), which is almost a pre-emption of the notion of "nascent" entrepreneurs (e.g., Krueger et al., 2000), carried through in the field of secondary education.

An initial assessment of this preliminary literature scan is that there appears to be relatively little published work which has directly considered how foresight and entrepreneurship might interact. That which has been done has been very interesting and seems to have great potential for further application. Of course, further detailed research that looks more deeply into the "vision" sub-category literature will be required in future work, and this future work may reveal other insights that could usefully transfer between the two fields of research.

One question which comes to mind is: How might recent advances in foresight/futures research contribute to a re-thinking of entrepreneurship research? Some possibilities are presented below, and are offered in the spirit of "beginner's mind."

An "Integral" Approach to Foresight

There has been a long-running debate in futures studies for some decades about its "field-ness" or its status as a "discipline" (e.g., Bell, 2002; Marien, 2002). One way in which the foresight research domain might contribute is through examining recent advances in that domain as possible precursors for what may be coming in entrepreneurship research. Such "pre-cursor analysis" is common practice in futures research (Glenn & Gordon, 2003), and is based on trying to generate insights (or possibly research hypotheses) about future developments in one area by analogy with another (ibid.).

Recent work in futures studies has considered a newly-emerging integrative approach to the conduct of futures inquiry. A summary of this work is sketched here– it is reported in more detail elsewhere (Voros, in press). In essence, there has begun to form a more integrative or "integral" view of inquiry which contends that all inquiry paradigms have the potential to contribute in some way to the human knowledge quest, albeit in a variety of different domains of inquiry.

Paradigms of inquiry

There are many classification schemas for inquiry paradigms, and a look at almost any book dealing with the conduct of research will reveal some sort of typology. One of the better-known classification systems is the one developed by Guba and Lincoln in several editions of the influential *Handbook of Qualitative Research* (Denzin & Lincoln, 1994, 2000 & 2005). According to Guba and Lincoln (1994, p.107), paradigms form a fundamental set of "basic beliefs" or "worldviews" about the nature of the world and about how one may undertake gaining knowledge about it.

These "basic beliefs," which are central to the different paradigms, give quite different answers to, among others, the following fundamental questions (Guba & Lincoln, 1994, p.108):

1. *the ontological question: what is the nature of "reality" and therefore what is there that can be known?*
2. *the epistemological question: what is the nature of knowledge, and the relationship between the would-be knower and what can be known? And,*
3. *the methodological question: how can the would-be knower or inquirer go about finding out whatever can be known?*

In addition, they define and examine several issues or themes which run across and through all of the classes of inquiry paradigms they consider. These themes include: the aim or purpose of the inquiry; assumptions about the nature of how knowledge accumulates; the "voice" or "posture" of the inquirer; the roles of values in inquiry; the criteria for assessing the quality of work; and so on. (See Table 6.2 in each of Guba & Lincoln (1994); Lincoln & Guba (2000) and Tables 8.1-8.4 in Guba & Lincoln (2005).)

Guba and Lincoln initially described four major classes of inquiry paradigm (Guba & Lincoln, 1994). They later (Lincoln & Guba, 2000) expanded this to five in response to some commentary from Heron and Reason (1997), who also suggested the consideration of an "axiological question" as foundational to paradigm definition. The five main classes of paradigm considered by these authors are: positivism; post-positivism; Critical Theory and its variants, or "criticalism"; constructivism; and participatory. Drawing upon an idea of Reason and Torbert (2001), it is also sometimes useful to consider this five-part typology as consisting of three main classes: positivistic (positivism and post-positivism); interpretivistic (criticalism and constructivism); and action/participatory. What is of most interest and use to us here is to note the essential differences in the foundational positions of the different classes of paradigm with respect to ontology, epistemology and methodology.

Comparison of inquiry paradigms

It is possible to trace a shift in the ontological positions of the five inquiry paradigms. The stances move from: a "real," objective, external but nonetheless knowable reality in positivism; to an external objective reality which is only imperfectly knowable in post-positivism; to an historically-contingent reality in criticalism which has formed over time through the reification of initially-plastic social structures; to multiple realities in constructivism which are dependent upon the relative specifics of the particular inquiry group; to a subjective-objective participative reality literally

co-created by the interaction of the inquiring consciousness and the cosmos. In the two positivistic paradigms, reality remains external to the subjectivity of the inquirer but, in the other three, reality becomes increasingly contingent upon inquirer subjectivity so that, ultimately, in the participatory paradigm, the inquirer's own subjectivity is considered to be literally *formative* of it.

A similar shift can be seen in the stances taken with respect to epistemology, axiology, methodology, the role of values, inquirer "posture," and so on, and a careful reading of the Tables in the above-cited works will reward the reader with many insights into these basic issues and paradigmatic commitments. Here, for reasons of space, we shall focus on epistemology and methodology.

The shifts in epistemological positions are especially interesting, as these of course form the basis for any knowledge claims which are produced by methodological interventions. On closer inspection, we can see in the epistemological positions of the five paradigms a three-part evolution in the emphasis placed on different forms of knowing. Following, for example, Reason and Bradbury (2001, p.xxv), Chandler and Torbert (2003), or Reason and Torbert (2001), these forms of knowledge inquiry may be termed "first-person," "second-person" and "third-person," and in a similar vein, Wilber (2000, p.70) calls them "I" (first person), "we/us" (second person) and "it/its" (third person, singular and plural). As noted above, one can simplify discussions of inquiry paradigms into three main types–positivistic, interpretivistic, and action/participatory–and this maps very suggestively to what Reason and Torbert (2001) consider third-person, second-person and first-person modes of inquiry, respectively. (Also see Torbert (2000) for another view of social science paradigms and first-, second- and third-person research/practice.)

There is a similar progression of the methodologies. The positivistic paradigms undertake experimental manipulation of the exterior objective ("third-person") world in order to examine the causal dependencies of the different factors under consideration, the positivist paradigm using mostly quantitative methods, the post-positivist also admitting some qualitative. The emphasis moves from naïve verification of hypotheses as "true" in the former, to attempts at falsification of hypotheses in the latter–which hypotheses must of course survive all attempts at falsification to be admitted as "probably true" findings. In the interpretivistic paradigms, the methods are grounded in the inter-subjective (second-person) "world" of shared subjective experience, hence the dialogical/dialectical methods of criticalism, and the hermeneutical/dialectical methods of constructivism. In the participatory paradigm, the methods involve direct participation of the (first-person) "subjects" of the inquiry in the very process of inquiry itself, granting equal-power status (i.e. what Heron and Reason call "*political* participation") to the participants. This participation is conducted through the exchange of information via language constructs grounded in a direct, shared, first-person experiential context. Heron and Reason (2001) have called this "research 'with' rather than 'on' people".

As is discussed elsewhere (Voros, in press), examples and elements of the inquiry paradigms described above can be seen reflected in the use of futures methods over the last several decades. And this observation leads us to consider what the "next" form of inquiry in that sequence might be.

Towards an "Integral" Approach to Inquiry

The word "integral" stems from the same root as other words such as "integrity" which deal with wholeness and completeness. Dictionary definitions hint at the meaning intended in this context: whole, complete; essential; balanced; joined into a greater unity. "Integral" also pertains to "integration" which has connotations of a harmonious combination of elements into a unified whole. All of these words capture the essence of the meaning of "integral" in the sense intended here.

A truly "integral" approach to inquiry would seek to include different *ways* of knowing, which would include (but not be limited to) those characterised earlier as first-, second- and third-person perspectives. It would also include different forms or *levels* of knowing, whether experiential, conceptual, or beyond–including post-mental *spiritual* experience, which latter has been investigated by methodological approaches quite different from those described here, and for a much longer span of time. This leads to the consideration, also, of different levels of *reality* as possible domains of inquiry–no longer simply the physical-material level of existence (as in the positivisms) and the mental-conceptual level of existence (as in criticalism and constructivism), but also other possible levels of reality "beyond" the mental. Note that this does not necessarily mean *literally*–there is the idea of higher levels of complexity in exterior organisation which correlate with higher levels of experience in interiority (Wilber, 2006, Fig. I.4, p.220). The inclusion of spiritual-gnostic knowledge re-integrates into the human knowledge quest forms of knowledge-seeking which scientific rationality has eschewed for centuries, ever since the emergence and subsequent dominance of positivistic science.

Thus, an "integral" approach to inquiry accepts that there are multiple ways of knowing (i.e. "epistemological pluralism"), multiple domains of inquiry which are knowable (i.e. "ontological pluralism"), and that many different methods, modes or forms of inquiry are appropriate for these different ways of knowing and domains of interest, be they physical, mental, or spiritual (i.e. "methodological pluralism"). And it also accepts as co-foundational the role of subjectivity in inquiry–of individual inquirers, of a group of collaborating inquirers, and the wider world of potential recipients of the reported knowledge so created.

One of the most integral frameworks yet developed is the one created by Wilber (1999-2000, 2006). It is a framework which attempts to integrate the major findings and discern the "orienting generalisations" of the human knowledge quest, ever since human consciousness first emerged and began to wonder–including art, morals, science, philosophy, psychology, politics and spirituality. In short, it takes as its canvas the entire "Great Nest of Being"–matter to body to mind to soul to spirit–and how it is manifested in self, culture and nature (Wilber, 2000). The particular utility of Wilber's model in this context is that it is at once a model of realms of reality into which inquiry can be made, a model of the consciousness which perceives this reality and undertakes inquiry, and a model of the ways in which inquiry is so undertaken.

Wilber model (very abridged)

A basic introductory description of the Wilber model has been already given elsewhere (Hayward, 2006; Hayward & Voros, 2004; Voros, 2001), and, for reasons of space, the discussion here will be brief.

There are many aspects to the Wilber model (e.g., Wilber, 2000). One of these makes use, in part, of a two-fold distinction between "interior" and "exterior" (horizontal axis), and "individual" and "collective" (or, singular and plural, the vertical axis). This division gives rise to four main domains of experience, views or perspectives: subjective; inter-subjective; objective; and inter-objective, represented as quadrants in a 2x2 matrix. All quadrants have correlations with the other three. The upper left quadrant corresponds to the interior (subjective-perceptual) consciousness of the individual (e.g., thoughts, feelings), or the worldspace of "I." The upper right corresponds to the (objectively-measurable) exterior of the individual (e.g., brain waves, neurotransmitter concentrations), or the worldspace of "it." The lower left quadrant corresponds to the shared interior inter-subjectivity of the collective (e.g., language, symbols, stories, myths), or the worldspace of "we/us". And the lower right corresponds to the observable structures of the collective (e.g., roads, buildings, forms of social organisation), or the worldspace of "its." In more recent work (Esbjörn-Hargens & Wilber, 2006; Wilber, 2006), there has been a further elaboration of the quadrants, into the "inside" and "outside" of each of those domains of experience, giving rise to eight main "zones of awareness," as shown in Figure 1.

The quadrants can be interpreted as the simultaneous co-existence of the three main elements of a paradigm (in the sense of Guba & Lincoln, 1994, above), namely: ontology, epistemology and methodology. As ontology, they represent existential "lifeworlds" which are inhabited as "practical felt realities" (Wilber, 2006, p.34). As epistemology, they represent "primordial perspectives" from which the world can be viewed, and from which it can be known (Wilber, 2006, p.36). And as methodology, they represent eight major forms of experimental injunction which co-arise with a given (existential-perspectival) ontology-epistemology. The key point Wilber tries to make is that there is no such thing as a "view from nowhere"–*all* knowledge claims emanate from an ontological-epistemological-methodological location in the quadrant matrix, and that this observation has profound implications for the conduct of knowledge inquiry.

We can better understand the eight zones of awareness in terms of the main type of methodology which is most representative of each, as follows (cf. Wilber, 2006, pp.34-40):

#1 *phenomenology*, or first-person interior awareness, as perceived from the inside of that awareness (i.e., what is going on inside your mind right now);

#2 *structuralism*, or first-person interior awareness, as seen by someone studying this awareness from an outside perspective (i.e., researchers studying the structures of interior awareness);

#3 *hermeneutics*, or first-person plural and second-person awareness, as experienced from inside by, e.g., a meaning-sharing speech community;

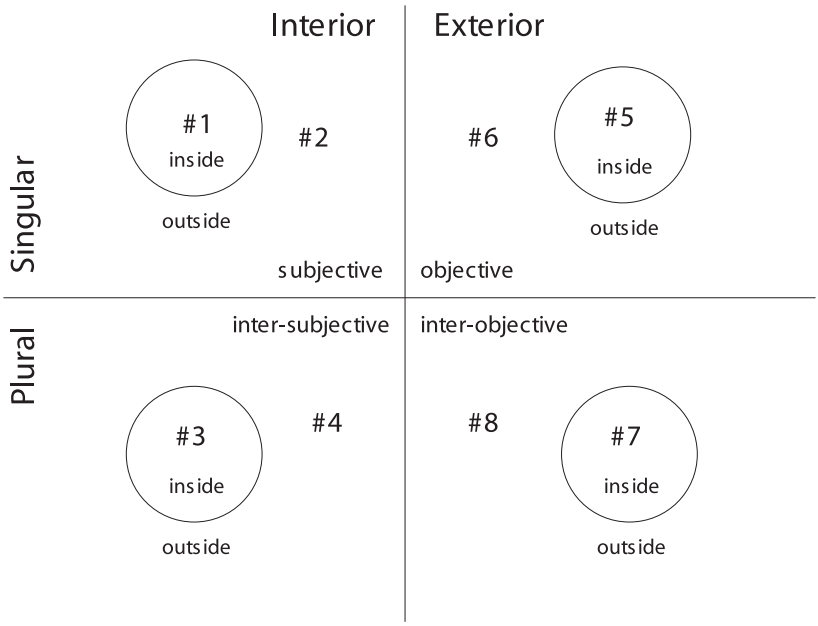

Figure 1. Eight zones of awareness. After Wilber (2006, pp.36-9).

#4 *ethnomethodology*, or the study of how shared meaning-making occurs in speech communities, as seen from an outside perspective (i.e., researchers studying cultural communities);
#5 *autopoiesis*, the study of how organisms "self-create" from within, e.g., cognitive science;
#6 *empiricism*, the "outside view" study of biological processes and behaviours, e.g., neurophysiology;
#7 *social autopoiesis*, a form of autopoietic theory applied to sociology; and
#8 *systems theory*.

Some of these methodologies may be more familiar to readers than others. The key point is that all of them are valid ways–as viewed by the communities of inquirers who are expert in their use–of inquiring into different aspects of reality; valid, that is, if they are brought to bear on the aspect of reality to which they are properly suited. This schema therefore allows us to see category errors between inquiry domains and inquiry methods. For example, it is problematic to study the zone #1 motivations of an entrepreneur by using zone #6 empirical-measurement techniques, and such an approach would need to have its putative validity carefully examined. While there are certainly *correlations* between domains–this is one of the key principles underlying the Wilber model–nonetheless the domains must be studied in their own right using appropriate methods. Correlations between results derived from different domains of inquiry–and, therefore, using different types of methods–must be sought *post hoc*, via comparative analysis, rather than assumed *a priori*, or, what is worse, removed altogether by reducing an inquiry to the consideration of only one domain which is assumed to be primary ("reductionism").

The above considerations have some implications for a more integrated approach to the study of entrepreneurship.

Towards an "Integral" Approach to Entrepreneurship Research?

Building upon the recent work reported above (Esbjörn-Hargens & Wilber, 2006; Wilber, 2006), it is possible to outline some elements of an investigative program into entrepreneurship as an inquiry domain, as well as the connection between foresight and entrepreneurship.

Firstly, as suggested by Davidsson and Wiklund (2001, p.85), "research focussing on the individual need not necessarily be psychological." There is also the possibility of correlating empirical-behavioural research (upper-right quadrant of Fig. 1) with psychological research (upper-left quadrant).

Secondly, with its acceptance of post-mental levels of being, the Wilber model is well suited to the inclusion of post-mental/spiritual theories of entrepreneurial intuition (e.g., La Pira, Gillin & Scicluna, 2006). Similarly to the above, these interior upper-left experiences could be correlated with possible empirical measurements of so-called "subtle energies" (Wilber, 2006, pp.228-9) in the upper-right quadrant.

Thirdly, the Wilber model suggests ways that the three main areas of focus in entrepreneurship research discussed by Low and MacMillan (1988)–individual-psychological theories, social-cultural theories, and network theories–might be integrated, through their respective correlations inside the wider integral frame.

And finally, the use of a more integrated view of entrepreneurship seen through such an integral lens, may make it possible for the different hypotheses of entrepreneurship and entrepreneurship research to come to some kind of mutual accommodation, through the recognition of the "correct-but-partial" nature of all of these different views (Alvarez, 2005; Bruyat & Julien, 2001; Busenitz et al., 2003; Cooper, 2005; Cornelius et al., 2006; Davidsson, 2003; Davidsson et al., 2001; Gartner, 2001; Shane & Venkataraman, 2000).

Conclusion

The preliminary literature scan reported here reveals several areas where these two domains–foresight and entrepreneurship–could fruitfully interact and generate new research directions. Both are emerging domains of inquiry, with somewhat porous boundaries and a heterogeneous mix of researchers, working to establish their own distinct identities in the social sciences. In essence, "the nexus between foresight and entrepreneurship" as a potential domain of inquiry is an almost "greenfield" opportunity space for a collaborative investigative program involving researchers in both fields. An understanding of more integral models of knowledge inquiry invites researchers in both fields to consider the concerted use of existing or new methods as part of a cross-correlative and integrated investigative program. Such scholarly and theoretical work could then feed back into the wider social contexts in which foresight and entrepreneurship are applied in human life, hopefully generating knowledge which, in the words of Heron and Reason (1997, p.290), "leads to action to transform the world in the service of human flourishing."

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References

Alvarez, Sharon A. (2005). Theories of entrepreneurship: Alternative assumptions and the study of entrepreneurial action. *Foundations and Trends in Entrepreneurship*, *1*(3), 105–148.

Baum, J. Robert & Edwin A. Locke (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology*, *89*(4), 587–598.

Baum, J. Robert, Edwin A. Locke, & Shelley A. Kirkpatrick. (1998). A longitudinal study of the relation of vision and vision communication to venture growth in entrepreneurial firms. *Journal of Applied Psychology*, *83*(1), 43–54.

Beck, Don E. & Graham Linscott. (1991). *The crucible: Forging South Africa's future.* Johannesburg: The New Paradigm Press.

Bell, Wendell. (2002). A community of futurists and the state of the futures field. *Futures*, *34*(3-4), 235–247.

Bird, Barbara & Mariann Jelinek. (1988). The operation of entrepreneurial intentions. *Entrepreneurship theory and practice*, *13*(2), 21–29.

Boyd, Nancy G. & George S. Vozikis. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship theory and practice*, *18*(4), 63–77.

Bradley, Raymond T. (2006). The psychophysiology of entrepreneurial intuition: a quantum-holographic theory. In L. Murray Gillin (Ed.) (2006), *Regional frontiers of entrepreneurship research: Compilation of papers of the third AGSE international entrepreneurship research exchange* [*CD*]. Melbourne: Swinburne University, pp. 722–739.

Bradley, Raymond T. (2007). The psychophysiology of intuition: a quantum-holographic theory of nonlocal communication. *World Futures*, *63*(2), 61-97.

Bruyat, Christian & Pierre-André Julien. (2001). Defining the field of research in entrepreneurship. *Journal of Business Venturing*, *16*(2), 165–180.

Busenitz, Lowell W., G. Page West III, Dean A. Shepherd, Teresa Nelson, Gaylen N. Chandler & Andrew Zacharakis. (2003). Entrepreneurship research in emergence: Past trends and future directions. *Journal of Management, 29*(3), 285–308.

Cariola, Monica & Secondo Rolfo. (2004). Evolution in the rationales of foresight in Europe. *Futures*, 36(10), 1063–1075.

Chandler, Dawn & William R. Torbert. (2003). Transforming inquiry and action: Interweaving 27 flavors of action research. *Action Research*, *1*(2), 133–152.

Cooper, Arnold. (2005). Entrepreneurship: the past, the present, the future. In Zoltan J. Acs & David B. Audretsch (Eds.), *Handbook of entrepreneurship research: An interdisciplinary survey and introduction* (pp. 21–34). Berlin: Springer.

Cornelius, Barbara, Hans Landström, & Olle Persson. (2006). Entrepreneurial studies: The dynamic research front of a developing social science. *Entrepreneurship Theory and Practice, 30*(3), 375–398.

Davidsson, Per. (2003). The domain of entrepreneurship research: Some suggestions. In Jerome A. Katz & Dean A Shepherd (Eds.), *Cognitive approaches to entrepreneurship research* (pp. 315–372). Amsterdam: Elsevier.

Davidsson, Per & Johan Wiklund. (2001). Levels of analysis in entrepreneurship research: Current research practice and suggestions for the future. *Entrepreneurship Theory and Practice, 25*(4), 81–99.

Davidsson, Per, Murray B. Low, & Mike Wright. (2001). Editors' introduction: Low and MacMillan ten years on: Achievements and future directions for entrepreneurship research. *Entrepreneurship Theory and Practice, 25*(4), 5–15.

Denzin, Norman K. & Yvonna S. Lincoln (Eds.). (1994). *Handbook of qualitative research.* Thousand Oaks, CA, USA: Sage Publications.

Denzin, Norman K. & Yvonna S. Lincoln (Eds.). 2000. *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA, USA: Sage Publications.

Denzin, Norman K. & Yvonna S. Lincoln (Eds.). (2005). *The SAGE handbook of qualitative research* (3rd ed.). Thousand Oaks, CA, USA: Sage Publications.

Dobrev, Stanislav D. & William P. Barnett. (2005). Organizational roles and transition to entrepreneurship. *Academy of Management Journal, 48*(3), 433–449.

Downing, Stephen. (2005). The social construction of entrepreneurship: Narrative and dramatic processes in the coproduction of organizations and identities. *Entrepreneurship Theory and Practice, 29*(2), 185–204.

El-Namaki, M.S.S. (1992). Creating a corporate vision. *Long Range Planning, 25*(6), 25–29.

Esbjörn-Hargens, Sean & Ken Wilber. (2006). Towards a comprehensive integration of science and religion: a post-metaphysical approach. In Philip Clayton & Zachary Simpson (Eds.), *The Oxford handbook of religion and science* (pp. 523-546). Oxford: Oxford University Press.

Fontela, Emilio, Joaquín Guzmán, Marybel Pérez, & Francisco Javier Santos. (2006). The art of entrepreneurial foresight. *Foresight, 8*(6), 3–13.

Fuller, Ted. (2000). Will small become beautiful? *Futures, 32*(1), 79–89.

Fuller, Ted. (2003a). If you wanted to know the future of small business what questions would you ask? *Futures, 35*(4), 305–321.

Fuller, Ted. (2003b). Small business futures in society. *Futures, 35*(4), 297–304.

Fuller, Ted & Jennifer Lewis. (2002). 'Relationships mean everything': a typology of small-business relationship strategies in a reflexive context. *British Journal of Management, 13*(4), 317–336.

Fuller, Ted & Paul Moran. (2001). Small enterprises as complex adaptive systems: a methodological question? *Entrepreneurship and Regional Development, 13*(1), 47–63.

Fuller, Ted & Yumiao Tian. (2006). Social and symbolic capital and responsible entrepreneurship: An empirical investigation of SME narratives. *Journal of Business Ethics, 67*(3), 287–304.

Fuller, Ted & Lorraine Warren. (2006). Entrepreneurship as foresight: A complex social network perspective on organisational foresight. *Futures*, 36(8), 956–971.

Fuller, Ted, Paul Argyle & Paul Moran. (2004). Meta-rules for entrepreneurial foresight. In Haridimos Tsoukas & Jill Shepherd (Eds.), *Managing the future: Foresight in the knowledge economy* (pp. 169–186). Oxford: Blackwell Publishing.

Fuller-Love, Nerys, Peter Midmore, Dennis Thomas & Andrew Henley. (2006). Entrepreneurship and rural economic development: a scenario analysis approach. *International Journal of Entrepreneurial Behaviour and Research, 12*(5), 289–305.

Gartner, William B. (2001). Is there an elephant in entrepreneurship? Blind assumptions in theory development. *Entrepreneurship Theory and Practice, 25*(4), 27–39.

Gartner, William B., Per Davidsson & Shaker A. Zahra. (2006). Are you talking to me? The nature of community in entrepreneurship scholarship. *Entrepreneurship Theory and Practice, 30*(3), 321–331.

Gillin, L. Murray (Ed.). (2006). *Regional frontiers of entrepreneurship research: Compilation of papers of the third AGSE international entrepreneurship research exchange* [CD]. Melbourne: Swinburne University.

Glenn, Jerome C. & Theodore J. Gordon (Eds.). (2003). *Futures research methodology* [CD] ("version 2.0" ed.). Washington DC: American Council for the United Nations University.

Guba, Egon G. & Yvonna S. Lincoln. (1994). Competing paradigms in qualitative research. In Denzin & Lincoln (1994), pp.105–117.

Guba, Egon G. & Yvonna S. Lincoln. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In Denzin & Lincoln (2005), pp.191–215.

Hamel, Gary & C.K. Prahalad. (1994a). *Competing for the future*. Boston: Harvard Business School Press.

Hamel, Gary & C.K. Prahalad. (1994b). Seeing the future first. *Fortune, 130*(5), 64–68.

Hayward, Peter. (2006). Towards wise entrepreneurship policy. In L. Murray Gillin (Ed.) (2006), *Regional frontiers of entrepreneurship research: Compilation of papers of the third AGSE international entrepreneurship research exchange* [*CD*]. Melbourne: Swinburne University, pp.1490–1502.

Hayward, Peter & Joseph Voros. (2004). Foresight and entrepreneurship. In L. Murray Gillin, John Butler, Evan Douglas, Kevin Hindle, Frank La Pira, Noel Lindsay, Dean Shepherd, John Yencken, & Shaker A. Zahra. (Eds.), *Regional frontiers of entrepreneurship research 2004: Proceedings of the first annual regional entrepreneurship research exchange* (pp.282–297). Melbourne: Swinburne University Press.

Heron, John & Peter Reason. (1997). A participatory inquiry paradigm. *Qualitative Inquiry, 3*(3), 274–294.

Heron, John & Peter Reason. (2001). The practice of co-operative inquiry: Research 'with' rather than 'on' people. In Peter Reason & Hilary Bradbury (2001), pp.179–188.

Kahane, Adam. (2001). How to change the world: Lessons for entrepreneurs from activists. *Reflections*, 2(3), 16–29.

Krueger Jr, Norris F., Michael D. Reilly, & Alan L. Carsrud. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5-6), 411–432.

La Pira, Frank, L. Murray Gillin & Pamela Scicluna. (2006). Non-local intuition: Developing electro-physiological measures for decision-making serial entrepreneurs. In Gillin (2006), pp.619–635.

Lichtenstein, Benyamin B., Kevin J. Dooley & G.T. Lumpkin. (2006). Measuring emergence in the dynamics of new venture creation. *Journal of Business Venturing*, 21(2), 153–175.

Lincoln, Yvonna S. & Egon G. Guba. (2000). Paradigmatic controversies, contradictions, and emerging confluences. In Norman K. Denzin & Yvonna S. Lincoln (2000), pp.163–188.

Low, Murray B. & Ian C. MacMillan. (1988,). Entrepreneurship: Past research and future challenges. *Journal of Management, 14*(2), 139–161.

Ma, Hao & Justin Tan. (2006). Key components and implications of entrepreneurship: A 4-P framework. *Journal of Business Venturing, 21*(5), 704–725.

Major, Edward, David Asch & Martyn Cordey-Hayes. (2001). Foresight as a core competence. *Futures, 33*(2), 91–107.

Marien, Michael. (2002). Futures studies in the 21st century: A reality-based view. *Futures, 34*(3-4), 261–281.

McKelvey, Bill. (2004). Toward a complexity science of entrepreneurship. *Journal of Business Venturing, 19*(3), 313–341.

McMullen, Jeffrey S. & Dean A. Shepherd. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review, 31*(1), 132–152.

Mintzberg, Henry, Bruce Ahlstrand & Joseph Lampel. (1998). *Strategy safari: a guided tour through the wilds of strategic management.* New York: The Free Press.

Morrow, Rowena. (2006). Hope, entrepreneurship and foresight. In L. Murray Gillin (Ed.) (2006), *Regional frontiers of entrepreneurship research: Compilation of papers of the third AGSE international entrepreneurship research exchange* [*CD*]. Melbourne: Swinburne University, pp.606–618.

Mosakowski, Elaine. (1998). Entrepreneurial resources, organizational choices, and competitive outcomes. *Organization Science, 9*(6), 625–643.

O'Connor, Allan & Jose M. Ramos. (2006). Empowering entrepreneurship through foresight and innovation: Developing a theoretical framework for empowerment in enterprise programs. *Journal of Developmental Entrepreneurship, 11*(3), 207–231.

Reason, Peter & Hilary Bradbury (Eds.). (2001). *Handbook of action research: Participative inquiry and practice.* Thousand Oaks, CA, USA: Sage Pubs.

Reason, Peter & William R. Torbert. (2001). The action turn: Towards a transformational social science. *Concepts and Transformation, 6*(3), 1–37.

Roper, Juliet & George Cheney. (2005). The meanings of social entrepreneurship today. *Corporate Governance, 5*(3), 95–104.

Shane, Scott & Sankaran Venkataraman. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217–226.

Thornton, Patricia H. (1999). The sociology of entrepreneurship. *Annual Review of Sociology*, 25(1), 19–46.

Tilley, Fiona & Ted Fuller. (2000). Foresighting methods and their role in researching small firms and sustainability. *Futures, 32*(2), 149–161.

Torbert, William R. (2000). Transforming social science: Integrating quantitative, qualitative, and action research. In Francine T. Sherman & William R. Torbert (Eds.), *Transforming social inquiry, transforming social action: New paradigms for crossing the theory/practice divide in universities and communities* (pp.67–91). Berlin: Springer.

Ucbasaran, Deniz, Paul Westhead, & Mike Wright. (2001). The focus of entrepreneurial research: Contextual and process issues. *Entrepreneurship Theory and Practice, 25*(4), 57–80.

Voros, Joseph. (2001). Reframing environmental scanning: an integral approach. *Foresight, 3*(6), 533–552.

Voros, Joseph. (In Press). Integral futures: An approach to futures inquiry. *Futures*, to appear.

Weerawardena, Jay & Gillian Sullivan Mort. (2006). Investigating social entrepreneurship: a multidimensional model. *Journal of World Business, 41*(1), 21–35.

Wilber, Ken. (1999-2000). *The collected works of Ken Wilber.* 8 vols. Boston: Shambhala.

Wilber, Ken. (2000). *A theory of everything: an integral vision for business, politics, science and spirituality.* Boston: Shambhala.

Wilber, Ken. (2006). *Integral spirituality: A startling new role for religion in the modern and postmodern world.* Boston: Shambhala.

Yamada, Jin-ichiro. (2004). A multi-dimensional view of entrepreneurship: Towards a research agenda on organisation emergence. *Journal of Management Development, 23*(4), 289–320.