Citation:
Gidley, J 2010, 'Globally scanning for "mega-trends of the mind": Potential futures of futures thinking', Futures: the journal of policy, planning and futures studies, vol. 42, no. 10, pp. 1040-1048.

Globally Scanning for "Megatrends of the Mind": Potential *Futures* of Futures Thinking

Jennifer M. Gidley[1]
RMIT University, Melbourne, Australia

Abstract

This paper focuses on emergent signs of evolutionary change in human thinking that run parallel with many of the exponential changes manifesting in the external world. Weak signals are identified from the early twentieth century indicating the emergence of new knowledge patterns. These signals have strengthened in the last forty years. The paper first identifies new ways of thinking within several disciplines such as science, philosophy, religion and education. New knowledge patterns are then identified in discourses that traverse disciplinary boundaries through transdisciplinary approaches such as futures studies and planetary/global studies. The paper then discusses evolution of consciousness, identifying research that *theorise*s new ways of thinking as being related to individual psychological development and/or socio-cultural evolution. Finally, evolutionary concepts are discussed that attempt to meta-cohere the new knowledge patterns via the terms *postformal*, *integral* and *planetary*. Notably, academic research on "futures of thinking", "evolution of consciousness" and/or "global mindset change" has been, until now, largely ignored by mainstream academic discourse on evolution, consciousness and futures studies.

Keywords: *evolution of consciousness, futures, global, integral, planetary, postformal, transdisciplinary*

1. Futures of Thinking and Knowledge that Coheres

> All of the leading holistic thinkers identify the crisis of our time as an epistemological crisis. We are not arguing against technology as such, or against capitalism in itself. We are saying that underneath our political, social, and economic arrangements, the way modern culture defines and understands reality itself is faulty. [1, para 6]

While there has been considerable futures material published in the last few decades (both within academic circles and in the popular media) about megatrends and drivers of change in the world of external events, the idea of *megatrends of the mind* has been largely ignored in the futures literature.[1] I am aware that the term *megatrends* is mainly used in empirico-predictive contexts. However I use the term megatrends paradoxically in a more philosophical/interpretive sense. My deliberate appropriation of *predictive* terminology is intended to disturb, to highlight the degree to which the major shifts in thinking are at least as significant as the megatrends discussed in relation to external events.

The last few years have seen leading thinkers in many fields of scholarly endeavour

[1] Jennifer M. Gidley, Research Fellow, Global Cities Research Institute, RMIT University, GPO Box 2476, Melbourne 3001, Australia. j.gidley@planetaryfutures.com.au

(including complexity science, ecology, education, futures studies, integral studies, philosophy, psychology, spirituality studies and systems theory) claim that the fragmented, mechanistic and materialistic ways of thinking of the last century are no longer sustainable. As Einstein[2] put it a century ago, "the significant problems we have cannot be solved at the same level of thinking with which we created them."

Significant early 21st century catalysts have included major global economic upheaval coupled with the dawning realisation of the potential threats to the habitability of the earth's ecosphere posed by severe climatic stress. While the different disciplines push for what is needed from their own perspectives, very few have the breadth of vision to encompass the wide-ranging sweep of deep change that is required. Systems scientist and integral theorist, Ervin Laszlo claims: "the evolution of consciousness … has become a pre-condition of our collective survival" [3, p. 77]. This paper will explore some of the research on the evolution of consciousness pointing to the gradual emergence over the last century of a significant "global mindset change."

Yet, perhaps even apparently far-sighted transdisciplinary fields such as futures studies are for the most part looking too close to the ground (*pragmatic futures*) and/or are too short-term focused (*strategic futures*). As the complexity and multidimensionality of planetary challenges increases futures studies needs to be increasingly oriented to the big picture of *epistemological*, *paradigmatic* and *global futures.* While the potential benefits of an *integral futures* approach has been posited, some interpretations of integral futures are ideologically narrow and thus not able to rise to the level of meta-integration that is required [4-7]. The complexity of outer trends and global events requires complex, higher order ways of thinking, understanding and action and collaboration among proponents of meta-theoretical approaches.

While numerous scholars from the academic field of futures studies have contributed significantly to the theoretical development and dissemination of futures thinking in the last few decades, it is imperative that the field continues to be in active dialogue with developments in other discourses. The growing awareness of the planetary scale of both the economic and ecological crises of the early 21st century has not just catalysed futurists. Many thinkers in diverse fields have begun to rapidly intuit the need for long-term futures perspectives. Perhaps some of their approaches may be considered naïve from the perspective of academic or professional futures. However, it is encouraging that so many academics, professionals and activists have begun to take serious account of the relevance of foresight (for example, in mitigation of worst-case climate change scenarios). Many researchers are now working within and across disciplinary boundaries to identify and encourage new ways of thinking and new knowledge patterns that will lead to the kind of complex understanding and meta-coherence that is needed in this increasingly complex world.

Throughout the 20th century, significant developments can be mapped in most, if not all, of the major academic disciplines; and secondly, in relation to the transcending of disciplinary specialisation, via inter-, multi-, and trans-disciplinary approaches. It is proposed here that these developments are *enactments* of new ways of thinking and new knowledge patterns, respectively. At a higher order theoretical level, these developments are explicitly theorized under the notion of the evolution of consciousness, which can be meta-cohered using the terms *postformal*, *integral* and *planetary* [8]. This kind of meta-

coherence can lend support to the notion that the human species is undergoing a new evolutionary leap, of a more complex order than previous developments in that—arguably for the first time in history—we are becoming conscious of our own evolution and responsible for co-creating it. This has very significant implications for scientific and other academic research, for our abilities to have long-range vision and for our abilities to comprehend and work with the complexity and interdependency that our current challenges as a species demand.

A major challenge in cohering and theorizing the new knowledge patterns is the diversity of conceptualization between the different disciplines. For example, although research from adult developmental psychology makes scientific claims to have firmly established four stages of development beyond Piaget's formal operations [9] there are postmodern philosophers, complexity scientists and/or systems theorists—among others—who are evidently enacting higher developmental reasoning yet do not conceptualize it as such. As a resolution to this challenge I propose a theoretical bifurcation between contemporary research that *enacts* new stages of consciousness without necessarily conceptualizing it as such[3] and research that explicitly *theorises* new stage/s of consciousness development—either individual or socio-cultural.

Section 2 presents a global scan of a selection of disciplines that have *enacted* major developments in their dominant mode of thinking during the 20th century. Section 3 introduces major developments in transdisciplinary fields that have *enacted* new knowledge patterns. Section 4 explores those areas of academic research, which explicitly *theorise* new modes of thinking or knowledge creation. Section 5 identifies key transversal concepts—postformal, integral and planetary—that when taken together can provide additional meta-coherence to an understanding of megatrends of the mind.

2. Megatrends Cluster 1: Identifying New Thinking—*Disciplinary* Developments

A broad-based global scan of the epistemological developments both within and across disciplines provides considerable evidence that leading thinkers have begun to enact new ways of thinking to such a degree that most major academic disciplines have undergone a major paradigm shift throughout the 20th century.

2.1 Transitions within Science: Shifting Foundations

The modernist, formal, scientific worldview, based on Cartesian dualism and classical physics—with its static notions of a mechanical, "building block" universe of atoms—is gradually being replaced by postmodern, postformal worldviews. Within science itself, classical physics based on Newtonian mechanics has given way to new physics theories arising from Einstein's theory of relativity and the discoveries of quantum physics [10, 11]. This shift in the paradigmatic foundations of physics has significant implications for the concept of time and thus for futures thinking (as discussed below). In parallel there has been a shift in scientific fundamentals from a dominant emphasis on physics to new biological discourses. This paradigmatic shift has arisen from developments in general systems theory, chaos theory and complexity sciences. The epistemological shift from physics to biology mirrors the difference between the objects of study—the domain of the

physical to the domain of life [12]. Following the shift from classical to quantum physics there has been a transition from classical biology, including Darwin's theories of evolution to the new biology-based theories of self-organisation and emergence [13-16]. The more fluid, life-oriented worldviews arising from this biological turn emphasise life as being "a complex adaptive system" [17], "self-organising" [18, 19], and "emergent" [14].

Furthermore, at the meeting point of science and philosophy, the philosophy of science discourse traces the eclipsing of *correspondence* theories of knowledge, such as empiricism, by *coherence* theories based on social constructivism [20].

2.2 Transitions within Philosophy: Shifting Ideas

A similar transition can also be observed in Western philosophical thought throughout the 20th century from modernism to postmodernism and poststructuralism. The singular notion of "philosophy"—implying British analytic philosophy, linked to logical positivism—has been increasingly accompanied by a greater "philosophical pluralism"[21]. Though more marginalised than the shifts from classical physics and biology to the new sciences, a philosophical turn from static mechanistic metaphors to organic, living, process metaphors of thinking was also emerging in philosophical thought in Einstein's time [22-24]. Henri Bergson's *élan vital*, Alfred North Whitehead's *process philosophy* and Husserl's *lifeworld* were all inspired by these shifts. Early 20th century philosophers, such as Rudolf Steiner, William James and John Dewey, attempted to integrate these emerging organic, natural, biological understandings with the scientific discourses of their day. Interestingly, such ideas were already appearing a century prior, in the leading edge thinking of Goethe's "delicate empiricism" and Schelling's "nature philosophy." According to Steiner, Schelling "…was inspired by the feeling that the ideas that appear in his imagination are also the creative forces of nature's process" [25]. Philosophical approaches that point to *constructive* or *reconstructive* postmodernisms tend to draw on the organic, process philosophies of Bergson and Whitehead [26]. Recent attempts have been undertaken to find conceptual bridges between what has been called the "cosmological and poststructuralist postmodernisms" [27, 28].

Yet early 20th century philosophy concerned itself more with the *history* of ideas than with the *evolution* of ideas or the *futures* of ideas. This paralleled the turn away from the speculative and metaphysical orientation of idealism towards increasingly materialistic philosophic forms, such as late pragmatism[4] in North American philosophy [29, 30] and early postmodernism in Europe, prior to the spiritual turn in continental philosophy [31-35].

More recent philosophical developments include: comparative philosophy, critical social theory, eco-philosophy, hermeneutics, integral theory, postmodernism and poststructuralism. This has catalysed a renewed awareness of context and historicity, supporting the emergence of macrohistory [36], 'big history' (See Patomaki and Steger) time studies [37] and futures studies[5] [38-45].

2.3 Transitions within Religion: Shifting Values

The majority of spiritually based discourses within the academic context still arise from

traditional religious sources, many of which are theistic, and/or monotheistic, such as the Abrahamic religions: Christianity, Judaism and Islam. A critique of fundamentalist versions of these is that many have pre-modern, dogmatic or sectarian notions of spiritual development, not having fully integrated the contributions of the modern human sciences or the pluralism of postmodernity. However, over the last decade we can observe the emergence of new rational discourses on spirituality[6] not limited by religious doctrines—perhaps as a counter-balance to the increasing fundamentalism in some quarters.

New forms of postmodern spirituality and religion are also being proposed [46-48]. In recent Australian research, Gary Bouma has identified a fundamental shift since the mid-1970s, in regard to religious authority, from the dominance of reason to the dominance of experience and emotion—perhaps indicating a postformalising of religion. He claims this has superseded the "Protestant shift" from tradition to reason [49]. In addition, recent American research on 'wisdom' from developmental psychology [50-52] and education [53-55] points toward the potential integration of postformal notions of cognition with love, reverence and inner development.

In parallel with these developments within religious discourse, there has been increasing tension in the public domain between the secularism of modernity and fundamentalist religious approaches. On the other hand there has been what is referred to as a "religious turn in continental philosophy" [33, 34] and a growing dialogue between science and spirituality. Of relevance to futures researchers is that religion and spirituality are no longer "off limit" for academic or scientific study.

2.4 Transitions in Education: Shifting Pedagogies

The last few decades have also born witness to the beginnings of a transition from formal, factory-model school and university education to a plurality of postformal pedagogies. We are experiencing what I call a *third wave* of impulses to evolve education since the beginning of the 20th century. The first and second waves have been discussed elsewhere [56]. I refer broadly to these *third wave* approaches to evolving education as "*post*formal pedagogies." Most have emerged over the last decade. I have identified over a dozen emerging pedagogical approaches that reflect new ways of thinking, which facilitate the evolution of consciousness (For references to the literature in relation to these approaches see [57]. These include:

- Aesthetic and artistic education;
- Complexity in education;
- Critical and postcolonial pedagogies;
- Environmental/ecological education;
- Futures education;
- Holistic education;
- Imagination and creativity in education;
- Integral education;
- Planetary/global education;
- Postformality in education;
- Postmodern and poststructuralist pedagogies;

- Transformative, spiritual and contemplative education;
- Wisdom in education.

Lest this list give the appearance that education globally in the 21st century is alive and well, creative and innovative, it is worth noting that all of these are relatively small counter-streams to the dominant hegemonic factory model of schooling. The latter is still being progressively transplanted into "developing countries" by the World Bank's "Education for All" agenda. Further there is a neo-conservative backlash within the field of education that seeks to control curricula through the "audit culture" [58]. One of my interests is to foster dialogue between these postformal pedagogies to strengthen their awareness of each other and to increase knowledge transfer among them. Educational futures researchers need to take account of both futures *in* education and futures *of* education.

3. Megatrends Cluster 2: Identifying New Knowledge Patterns—*Post-disciplinarity*

In addition to the significant developments in particular disciplines, the 20th century witnessed a shift beyond disciplinary specialisation with a proliferation of inter-, multi- and trans-disciplinary fields, thus broadening and deepening ways of conceptualizing knowledge. These include futures studies (expanding the temporal dimension) and global studies (expanding the spatial dimension).

3.1 Expanding Disciplinary Boundaries

Several epistemological approaches have emerged[7] in the second half of the 20th century that seek to counterbalance the excesses of fragmentation, specialisation and reductionism in the dominant worldview.[8] These include transdisciplinarity, systems theory, aesthetics and others. Integrative fields such as integral studies that explicitly theorise the evolution of consciousness will be discussed in Section 5.

There has been a developing transition from disciplinary specialisation to multi-, inter-, transdisciplinary knowledge creation [59, 60]. The coining of the term transdisciplinarity in the late 1960s has been attributed to Jean Piaget, though others such as Edgar Morin and Erich Jantsch used it around the same time [61]. Knowledge-bridges are also created through specific approaches such as Wilber's "methodological pluralism" [47]; Kincheloe's "bricolage" [62]; and notions such as "boundary-spanning" [63] and "creative marginality" [64].

At around the same time that transdiscipinarity was first being discussed in France, theoretical biologist, Ludvig von Bertalanffy,[9] initiated important developments in establishing a theoretical case that the methods of classical physics were not appropriate for studying biological life [12]. He developed the theory of *open systems*, claiming that traditional *closed system* models based on classical science were "in principle, inapplicable to the living organism…[and] that many characteristics of living systems which are paradoxical in view of the laws of physics are a consequence of this fact" (p. 39-40). Systems science is a significant theoretical basis of László's integral theory [15] and Hans Georg Graf's global futures approach [65].

As part of the post-modern countering of scientism—the belief that science is the only

legitimate epistemology—there has been a growing interest in knowledge creation and integration through the arts. Such aesthetic epistemologies include music, architecture, painting, literature, film, and new forms of movement. (See also Kagan, and Hampson, in this issue)

Several other developments can be noted in the way that knowledge is constructed in order to be studied. For example, there has been a flourishing of post-disciplinary studies grounded in notions of social justice (such as cultural studies, indigenous studies, queer studies, women's studies/feminism); and other issues of critical importance (such as environmental studies, justice globalism, peace studies, media studies). In relation to the latter the implications of the information age, particularly the world wide web need to be particularly noted for their ubiquitous and controversial effects on other areas of knowledge creation [66-68].

3.2 Expanding Time: The Emergence of Futures Studies

Another late 1960s development was the gradual transition from emphasis on the past to awareness of the value of foresight/futures thinking in many discourses, which provided a positive scientific and academic context for futures studies to expand its scope. In addition there has been a stretching of time periods that can be "legitimately" studied, e.g. macrohistory [36] and big history (see Patomaki and Steger in this issue).

The concept of linear time itself has undergone significant change since its tripartition into past, present and future by Parmenides (b. 540 BCE) [69]. Over the last two millennia the linear conception of time—which began as the more formal *measurement* of already-recognized cosmic and natural temporal cycles—became rationally conceptualized as the chronological measurement of change. Since the Industrial Revolution linear, chronological time has further contracted by association with *mechanical* time and *factory* time.

However, the changes to the concepts of time have been even more dramatic in the last century since Einstein. In the early 20th century significant theoretical developments concerning the notion of time occurred in both the natural sciences and the social sciences. In physics, Einstein's theory of relativity displaced the Newtonian conception of *objective* time as an unchangeable, permanent 'place' upon which the movement or change of things can be measured in discrete, identical fragments [10, 70]. Synchronously, the new philosophical phenomenology of Husserl was positing a *subjective* time—the time of the soul—in contrast to external or objective time [71]. Theoretical attempts have been made to come to terms with these new perspectives on time [8, Appendix A, 37].

Further scientific and technological developments in the last century have seen temporal partitioning become exaggerated by increasingly sophisticated scientific and digital means, from one extreme in radioactive half-life, to the other extreme in nanoseconds. Linear time has also become dominated by politico-economic metaphors, exemplified by such phrases as "time is money," "buying time." This mechanistic and economic colonization of time has increased exponentially in recent decades, contributing to the *speed addiction* of our present age—demonstrated in fast foods, internet, instant global text messaging, accelerated learning, and the three-quick-steps-to-spiritual-enlightenment culture. Just to cope there are drugs to keep up, such as speed and cocaine; and drugs to slow down, such as alcohol and tranquillizers.

However, in parallel with the accelerating freneticism and time panic of the 20th century alternative notions have been emerging, resulting in a trend towards diversity in conceptualizations of time. Notions of cyclical time are being reclaimed from non-western [72, 73] and feminist perspectives [74, 75]. Initially these two major time perspectives—linear and cyclical—were set up in opposition to each other. However, increasingly, new discourses are emerging that provide a more complex, nuanced perspective. (See also [8, Appendix A])

3.3 Expanding Space: Global Imaginaries[10]

In a related way there has also been an emerging interrogation of some of the taken-for-granted assumptions of modernist notions of *space*. Postmodern and postcolonial reformulations of space focus primarily on the opening up of cultural and social space, and conceptual/noospheric space. The modernist worldview based on scientific materialism has colonized conceptual space with respect to our concepts of space—particularly *outer* space—by way of its *physicalist* metaphors drawn from classical physics. Relevant reframings from postformal, integral, and global/planetary perspectives could re-introduce other notions such as *inner* space to complement outer space, *soul/spiritual* space to complement physical space, and *planetization* to complement globalization. These *other* components of space have become marginalized by the one-sided emphasis of scientism.

In addition, the modernist worldview is closely linked with the geo-political unit of the nation-state. Yet there is a growing complexity and urgency of planetary issues from socio-cultural, politico-economic and environmental perspectives—such as growing mental health problems, increasingly inequitable wealth distribution, climate change, mass extinction of species and water shortages. These require more than piece-meal, fragmented responses and demand a planetary reframing of human relationships with nature and the cosmos. This is also reflected in the relatively recent eclipsing of fields such as *international* studies (grounded in the concept of the nation-state) by the more comprehensive, inclusive and multi-polar field of *global* studies [76, 77]. It is also reflected in the increasing reference to global and planetary in relation to consciousness, culture and civilisation [17, 78, 79] (see also Gangadean, Klisanin, and Patomaki & Steger in this issue). This shift has recently been conceptualised as "the rise of the global imaginary" [76] and is reflected in futures research as an emphasis on planetary, world or global futures.

4. Megatrends Cluster 3: Identifying New Discourses that *Theorise* New Thinking

This research can be differentiated into two subcategories: that which theorises further stage(s) of individual psychological development (ontogeny) and that which theorises further stage(s) of socio-cultural evolution (phylogeny). Several theorists acknowledge and theorise the important interrelationships between both ontogeny and phylogeny [See 8].

One of the gaps I have discerned in the literature is that—in spite of rhetoric about integrality and inclusion—much of this research operates within disciplinary or tacit ideological boundaries without reference to the research undertaken in parallel disciplines or discipline clusters. Wilber's work is clearly an exception to this and this is one of his significant contributions to the contemporary literature providing it is not interpreted

ideologically. Part of my endeavor here is to increase understanding of the relationship between individual psychological development and socio-cultural evolution as *two* faces of the *one* evolution of human consciousness.

4.1 Evolution of Consciousness

Swiss cultural philosopher Jean Gebser wrote extensively about the shifts occurring in many disciplines in the first half of the 20th century, describing it as an indication of what he called a "mutation" to a new structure of consciousness. He referred to the previous structure of consciousness as *mental-perspectival*, and to the emerging structure of consciousness as *integral-aperspectival* [69]. Gebser's detailed examples of the features of the new consciousness—based on almost two decades of transdisciplinary research—provide a significant "academic footnote" to the extensive research on the evolution of consciousness undertaken by Rudolf Steiner[11] and Sri Aurobindo some decades earlier [81-83].

In turn, Steiner's and Sri Aurobindo's evolutionary research can be contextualised in the philosophical work of several German idealists and romantics, almost a century before Charles Darwin published his *Origin of Species* (1859). In the late eighteenth and early nineteenth centuries, Johann Wolfgang von Goethe, Georg Wilhelm Friedrich Hegel and Friedrich Wilhelm Joseph Schelling extended Johann Gottfried von Herder's seminal ideas on the evolution of consciousness in many ways. In particular, Schelling's contribution foreshadowed current notions of conscious evolution [84]. More recently, several theorists have written on the evolution of consciousness, from a variety of disciplinary and post-disciplinary perspectives [16, 18, 85-88].

4.2 Adult Developmental Psychology

Since at least the 1970s there has been a significant strand of adult developmental psychology research that identifies several stages of *postformal* psychological development The adult developmental psychology discourse is primarily focused on individual development and is further discussed below under *postformal*.

4.3 Socio-cultural Macrohistory

Following on from the early 20th century research of Steiner, Sri Aurobindo, Gebser and Teilhard de Chardin,[12] many other researchers from a range of disciplines have identified an emergent stage in socio-cultural evolution. It is often referred to as *integral* or *planetary* Integral and planetary approaches will be further distinguished below.

5. Megatrends Cluster 4: Identifying Transversal Discourses that *Meta-Cohere*

There are three major strands of discourse that attempt to meta-cohere the new ways of thinking and new knowledge patterns. From differing perspectives they theorise what they claim are entirely new developmental and/or evolutionary emergences. Researchers in the field of adult developmental psychology have identified several stages of *postformal*

reasoning beyond Piaget's "formal operations." From science, philosophy and transpersonal psychology notions of *integral* and/or *holistic* thinking have been increasing in the literature as part of a movement beyond fragmentation, specialisation and reductionism. Environmental, eco-philosophical, postcolonial, multicultural and some geo-political discourses point to an emerging *planetary/global imaginary*.[13] My theoretical contribution is to integrate the research on postformal reasoning, integral theory and planetary imaginaries within the broader movement of consciousness that I am theorizing here.

These three major strands of research—postformal, integral and planetary—each have a stronger emphasis in a particular area. The postformal psychology literature tends to focus on empirical and analytic articulation of higher stages of reasoning; the integral literature tends to emphasise the epistemological crisis and to promote integral thinking; the planetary consciousness literature tends to emphasise the urgency of transnational collaboration around our planetary crises: ecological, politico-economic and socio-cultural. My philosophical interest is in *thinking these threads together* as facets of the one emerging consciousness movement. They are three interrelated ways to meta-cohere the new thinking and new knowledge patterns.[14]

5.2.1 Postformal

Postformal is the most widely used psychological term to denote higher developmental stages beyond Piaget's *formal operations*. Adult developmental psychologists have been undertaking research into postformal thinking for several decades particularly in the USA. They identify numerous features of postformal reasoning—including complexity, contextualisation, creativity, dialectics, dialogue, holism, imagination, construct awareness, paradox, pluralism, reflexivity, spirituality, values and wisdom [51, 52, 90, 91]. Michael Commons et al. have identified up to four postformal stages of psychological development: systemic, meta-systemic, paradigmatic and cross-paradigmatic [9]. Educational researchers tend to use the hyphenated form of *post-formal* in relation to critical and postmodern approaches to education [92]. Educational researcher Joe Kincheloe referred to post-formality as "the socio-cognitive expression of postmodernism" [93, p. 309]. My use of postformal is transdisciplinary and includes a macrohistorical futures perspective. Further research could be undertaken as to how futures studies might look if postformal reasoning was more fully integrated.

5.2.2 Integral

Integral is a widely used term by several different schools of thought, but it is beyond the scope of this paper to discuss them all in detail. My interest here is to point to the interrelationships among significant integrative approaches that have been operating in relative isolation from each other. When brought into hermeneutic dialogue with each other, Steiner's integral spiritual science, Gebser's integral-aperspectival cultural phenomenology, and Wilber's integral-AQAL theoretical framework, demonstrate significant convergences in addition to their unique particularities. In using the term *integral,* I also foreground concepts of inclusivity, holism, pluralism and reverence. The

approaches of Steiner, Gebser and Wilber can be further enriched by other integral theoretic narratives [15, 81] and transdisciplinary theories [60, 94]. This points towards the possibility of new liaisons between approaches that are: inclusive of the vastness of noospheric breadth (*macro-integral*); that provide rigorous theoretic means for cohering it (*meso-integral*); that attend to the concrete details required for applying the theories (*micro-integral*); that encourage the participation of all aspects of the human being throughout this process (*participatory-integral*); and that are able to traverse and converse across multiple dimensions (*transversal-integral*) [4]. As discussed earlier an *integral futures* approach is being currently being developed [4-6].

5.2.3 Planetary

The term *planetary* has been increasing in usage within the evolution of consciousness and futures discourses. The pluralism of its contemporary usage provides a counterbalance to the term, *globalisation*—which has often been limited to politico-economic discourse and processes. Many researchers who use *planetary* have been inspired by Teilhard de Chardin's notion of the *planetization of mankind* [95]. The term, *planetary*—which primarily denotes an anthropo-socio-cultural and ecological framing—is gaining increasing currency as a term to characterize important features of the new consciousness, particularly for those theorists who have a critical sensibility in the light of our complex current planetary situation. In addition to its popular use by environmental activists it is used in academic contexts by a range of philosophers, scientists, educators and sociologists. This critical use of *planetary* has been emphasised in the philosophical writings of Morin who refers to the present times as the *Planetary Era*, which he claims began around five hundred years ago [94, 96]. (See also Hampson's eco-logical futures in this issue) The notion of *planetary futures* is relatively undeveloped as yet in the literature.

6. Are "Megatrends of the Mind" impacting on Futures Thinking?

Futures studies is an emerging academic and professional field that has been developing for over forty years. Prior to its emergence in the late 1960s significant changes already underway in science and philosophy—since at least the turn of the 20th century. Although classical science had been rocked to its foundations by Einstein's relativity theory, quantum physics and open systems theory, and analytical philosophy had been unsettled by process philosophy, futures studies began its life as a positivist empirical discipline. Over the last four decades the edges of the empiricist futures tradition have been encroached upon by critical theory, postcolonial theory, systems and complexity sciences, transdisciplinarity, action research and integral theories to name a few. Yet futures researchers are barely visible as serious contributors in the journals and conference of these discourses.

From the other side of the picture more and more researchers are beginning to address the need for long-term futures thinking and foresight—yet often without the depth of understanding of the field that is the fruit of decades of futures thinking, practice and research. This paper attempts to open futures thinking out in all possible dimensions to embrace the new thinking and knowledge patterns that are emerging across the breadth and depth of the global knowledge terrain. It is a call to move beyond the "silo of futurism" by

being cognizant of the megatrends of the mind identified here. Futures studies as a field can be furthered by futurists taking part in deep dialogue with other researchers who are enacting and theorising the emerging *futures of thinking*. This will help to ensure that the *futures* of futures thinking will move beyond the mindsets of the past.

References

[1] R. Miller, (2006) Making Connections to the World: Some Thoughts on Holistic Curriculum [Electronic version]. Encounter: Education for Meaning and Social Justice, 19(3).

[2] J. Naisbitt, Mindset: Eleven ways to change the way you see-and create-the future. 2006, New York, NY: Collins Business, HarperCollins.

[3] E. László, The Chaos Point: The World at the Crossroads. 2006, Charlottsville, VA: Hampton Roads Publishing Company, Inc.

[4] J. Gidley, An Other View of Integral Futures: De/reconstructing the IF Brand. Futures: The journal of policy, planning and futures studies, Forthcoming.

[5] G. Hampson, Integral futures and futures of integral: An analysis of Richard Slaughter's analysis of Causal Layered Analysis. Futures: The journal of policy, planning and futures studies, Forthcoming.

[6] R. Slaughter, Introduction: Integral Futures Methodologies. Futures, 2008. 40: p. 101-108.

[7] P. Hayward, Pathways to integral perspectives. Futures, 2008. 40: p. 109-119.

[8] J. Gidley, The Evolution of Consciousness as a Planetary Imperative: An Integration of Integral Views. Integral Review: A Transdisciplinary and Transcultural Journal for New Thought, Research and Praxis, 2007. 5: p. 4-226.

[9] M.L. Commons, F. Richards, A, Organizing Components into Combination: How Stage Transition Works. Journal of Adult Development, 2002. 9(3): p. 159-177.

[10] A. Einstein, Relativity: The Special and General Theory (Translated Robert W. Lawson). 1920/2000, Bartelby.com.

[11] A. Zajonc, ed. The New Physics and Cosmology: Dialogues with the Dalai Lama. Mind and Life Series. 2004, Oxford University Press: New York.

[12] L.v. Bertalanffy, General Systems Theory: Foundations, Development, Applications (Revised Edition). 1969/1976, New York: George Braziller, Inc.

[13] T.W. Deacon, The hierarchic logic of emergence: untangling the interdependence of evolution and self-organisation., in Evolution and Learning: The Baldwin Effect Reconsidered, B. Weber and D. Depew, Editors. 2003, MIT Press: Cambridge, MA. p. 273-308.

[14] U. Goodenough, T.W. Deacon, The Sacred Emergence of Nature, in Oxford Handbook of Science and Religion, P. Clayton, Editor. 2006, Oxford University Press: Oxford. p. 853-871.

[15] E. László, Science and the Akashic Field: An Integral Theory of Everything. 2007, Rochester, Vermont: Inner Traditions.

[16] P. Russell, The Global Brain Awakens: Our Next Evolutionary Step. 2000, Melbourne: Element Books.

[17] B. Swimme, M.E. Tucker, The Evolutionary Context of an Emerging Planetary Civilization, in Kosmos: An Integral Approach to Global Awakening. 2006. p. 7-8.
[18] E. Jantsch, The Self-Organising Universe: Scientific and Human Implications of the Emerging Paradigm of Evolution 1980, New York: Pergamon Press.
[19] F. Varela, E. Thompson, E. Rosch, The Embodied Mind: Cognitive Science and Human Experience. 1993, Cambridge, Massachusetts: The MIT Press.
[20] P. Cicovacki, Transdisciplinarity as an interactive method: A critical reflection on the three pillars of transdisciplinarity [Electronic version]. in Das Verbindende der Kulturen, The Unifying Aspects of Cultures, Les points communs des cultures. 2004. Vienna, Austria: Research Institute for Regional and Transnational Processes (INST).
[21] A.J. Mandt, The Triumph of Philosophical Pluralism? Notes on the Transformation of Academic Philosophy. Proceedings and Addresses of the American Philosophical Association, 1986. 60(2): p. 265-277.
[22] H. Bergson, Creative Evolution (A. Mitchell, Trans.). 1911/1944, New York: Macmillan & Co.
[23] R. Steiner, The Philosophy of Freedom: The basis for a modern world conception (GA 4) (M. Wilson, Trans.) (Rev. ed.). (Original work published 1894) 1894/1964, Spring Valley, NY: The Anthroposophic Press.
[24] A.N. Whitehead, Process and Reality. 1929/1985, New York: Free Press.
[25] R. Steiner, The Riddles of Philosophy (GA 18) (4th ed.) (Original work published 1901, and republished with addition in 1914). 1901/1973, Spring Valley, NY: The Anthroposophic Press.
[26] D.R. Griffin, Introduction to SUNY Series in Constructive Postmodern Thought, in Process and Difference: Between Cosmological and Poststructuralist Postmodernisms. 2002, SUNY Press: New York. p. vii-xi.
[27] A. Gare, The Roots of Postmodernism: Schelling, Process Philosophy, and Poststructuralism, in Process and Difference: between Cosmological and Poststructuralist Postmodernisms, C. Keller and A. Daniell, Editors. 2002, SUNY Press: New York.
[28] C. Keller, A. Daniell, Process and Difference: Between Cosmological and Poststructuralist Postmodernisms. SUNY Series in Constructive Postmodern Thought, ed. D.R. Griffin. 2002, New York: SUNY Press.
[29] E. Gitre, William James on Divine Intimacy: Psychical Research, Cosmological Realism and a Circumscribed Re-Reading of The Varieties of Religious Experience. History of the Human Sciences, 2006. 19(2): p. 1-21.
[30] A. Gare, Speculative Metaphysics and the Future of Philosophy: The Contemporary Relevance of Whitehead's Defence of Speculative Metaphysics. Australasian Journal of Philosophy, 1999. 77(2): p. 127-145.
[31] R. Benedikter, Postmodern spirituality: A dialogue in five parts. 2005 [cited 2006 28 June]; Available from: http://www.integralworld.net/index.html?benedikter1.html.
[32] J.D. Caputo, The prayers and tears of Jacques Derrida: Religion without religion The Indiana Series in the Philosophy of Religion, ed. M. Westphal. 1997, Bloomington and Indianopolis: Indiana University Press.

[33] J. Habermas, Between naturalism and religion: Philosophical essays. 2008, London: Polity Press.
[34] J.P. Manoussakis, After God: Richard Kearney and the Religious Turn in Continental Philosophy. Perspectives in Continental Philosophy, ed. J.D. Caputo. 2006, New York: Fordham University Press.
[35] T.E. Reynolds, The Broken Whole: Philosophical Steps Toward a Theology of Global Solidarity. SUNY series in Theology and Continental Thought. 2006, New York: SUNY Press.
[36] J. Galtung, S. Inayatullah, Macrohistory and Macrohistorians. 1998, Westport, CT: Praeger.
[37] B. Adam, Time (Key Concepts). 2004, Cambridge, UK: Polity Press.
[38] W. Bell, Foundations of Futures Studies I: History, Purposes, Knowledge. 1997/2003, New Brunswick, NJ: Transaction Publishers.
[39] W. Bell, Foundations of Futures Studies II: Values, Objectivity and the Good Society. 1997/2004, New Brunswick, NJ: Transaction Publishers.
[40] E. Boulding, Building a Global Civic Culture: Education for an Interdependent World. 1990: Syracuse University Press. 200.
[41] J. Dator, Advancing Futures: Futures Studies in Higher Education. 2002, Westport, Connecticut: Praeger.
[42] S. Inayatullah, P. Wildman, Futures Studies: Methods, Emerging Issues and Civilizational Visions. A Multi-Media CD ROM. 1998, Brisbane: Prosperity Press.
[43] E. Masini, Why Future Studies? 1993, London: Grey Seal.
[44] Z. Sardar, Conquests, Chaos and Complexity: The Other in Modern and Postmodern Science. Futures, 1994. 26(6): p. 665-682.
[45] R. Slaughter, S. Inayatullah, The Knowledge Base of Futures Studies CD-ROM, Vols. 1-4. 2000, Foresight International: Brisbane.
[46] D. Tacey, The spirituality revolution: The emergence of contemporary spirituality. 2003, Sydney: Harper Collins. 250.
[47] K. Wilber, Integral Spirituality: A Startling New Role for Religion in the Modern and Postmodern World. 2006, Boston, MA: Shambhala Publications.
[48] L. Taub, The spiritual imperative: Sex, age and the last caste. 2002, Tokyo, Japan: Clear Glass Press.
[49] G. Bouma, Australian Soul: Religion and Spirituality in the 21st Century. 2006, Cambridge: Cambridge University Press.
[50] P.K. Arlin, The Wise Teacher: A Developmental Model of Teaching Theory into Practice, 1999. 38(1): p. 12-17.
[51] S.R. Cook-Greuter, Mature Ego Development: A Gateway to Ego Transcendence. . Journal of Adult Development, 2000. 7(4): p. 227-240.
[52] J.D. Sinnott, The Development of Logic in Adulthood: Postformal Thought and its Applications. 1998, New York: Springer.
[53] T. Hart, From Information to Transformation: Education for the Evolution of Consciousness. 2001, New York: Peter Lang.
[54] J. Kincheloe, S. Steinberg, A Tentative Description of Post-Formal Thinking: The Critical Confrontation with Cognitive Theory, in The Post-Formal Reader :

Cognition and Education J. Kincheloe, S. Steinberg, and P.H. Hinchey, Editors. 1999, Falmer Press: New York. p. 55-90.
[55] R. Miller, (2000) Education and the evolution of the cosmos [Electronic version]. Caring for new life: Essays on holistic education Volume,
[56] M. Molz, J. Gidley, A transversal dialogue on integral education and planetary consciousness: Markus Molz speaks with Jennifer Gidley. Integral Review: A Transdisciplinary and Transcultural Journal for New Thought, Research and Praxis, 2008. 6: p. 47-70.
[57] J. Gidley, Educating for evolving consciousness: Voicing the emergenc-y for love, life and wisdom, in The international handbook of education for spirituality, care and wellbeing. 2009, Springer: New York.
[58] M. MacLure, 'The bone in the throat': some uncertain thoughts on baroque method. in Engaging Pedagogies, AARE 2006 International Education Research Conference. 2006. Adelaide.
[59] J.T. Klein, Prospects for Transdisciplinarity. Futures, 2004. 36(4): p. 515-526.
[60] B. Nicolescu, Manifesto of Transdisciplinarity (Translated by Karen-Claire Voss). Suny Series in Western Esoteric Traditions. 2002, New York: SUNY Press.
[61] B. Nicolescu, Definition of Transdisciplinarity [Electronic version]. Rethinking Interdisciplinarity 2003 [cited 2008 March 8]; Available from: http://www.interdisciplines.org/interdisciplinarity/papers/5/24/1/language/en.
[62] J. Kincheloe, K. Berry, Rigour and Complexity in Educational Research: Conceptualising the bricolage. Conducting Educational Research, ed. H. Torrance. 2004, Berkshire: Open University Press.
[63] P. Williams, The competent boundary spanner. Public Administration, 2002. 80(1): p. 103-124.
[64] M. Dogan, R. Pahre, Creative marginality: Innovation at the intersections of social sciences. 1990, Boulder: Westview Press.
[65] H.G. Graf, Global Scenarios. Megatrends in Worldwide Dynamics 2002, Zurich: Verlag Rüegger.
[66] J. Gidley, The metaphors of globalisation: A multi-layered analysis of global youth culture, in The causal layered analysis (CLA) reader: Theory and case studies of an integrative and transformative methodology, S. Inayatullah, Editor. 2004, Tamkang University: Taipei.
[67] J.M. Healy, Failure to Connect: How Computers Affect Our Children's Minds - and What We Can Do About It. 1998, New York: Touchstone.
[68] S. Steinberg, J. Kincheloe, eds. Kinderculture: the Corporate Construction of Childhood. 2004, Westview Press: Boulder, Colorado.
[69] J. Gebser, The Ever-Present Origin. 1949/1985, Athens, Ohio: Ohio University Press.
[70] E. Weik, From Time to Action: The contribution of Whitehead's philosophy to a theory of action. Time & Society, 2004. 13(2/3): p. 301-319.
[71] E. Husserl, Phenomenology of Internal Time-Consciousness. 1905/1964, Indianapolis, IN: Indiana Univeristy Press.
[72] M. Eliade, The Myth of the Eternal Return: Cosmos and History. 1954/1989, London: Arkana.

[73] S. Inayatullah, Earth in Heaven, in Transcending Boundaries: Prabhat Rainjan Sarkar's Theories of Individual and Social Development, S. Inayatullah and J. Fitzgerald, Editors. 1999, Gurukula Press: Maleny, Queensland.
[74] J. Kristeva, The Kristeva Reader 1986, New York: Columbia University Press.
[75] I. Milojevic, Educational Futures: Dominant and Contesting Visions 2005, London: Routledge.
[76] M.B. Steger, The rise of the global imaginary: Political ideologies from the French revolution to the global war on terror. 2008, Oxford: Oxford University Press.
[77] S. Sassen, Deciphering the Global: Its Scales, Spaces and Subjects. 2007, New York, NY: Routledge.
[78] D. Elgin, Global Consciousness Change: Indicators or an Emerging Paradigm. 1997, The Millennium Project: San Anselmo, CA.
[79] A. Montuori, Planetary culture and the crisis of the future. World Futures: the Journal of General Evolution, 1999. 54(4): p. 232-254.
[80] R. Kapoor, Auroville: A spiritual-social experiment in human unity and evolution. Futures: The journal of policy, planning and futures studies, 2007. 39: p. 632-643.
[81] S. Aurobindo, The Life Divine. 2nd American Edition. (Originally published in the monthly review Arya 1914-1920). 1914/2000, Twin Lakes, WI: Lotus Press.
[82] R. Steiner, Cosmic Memory: Prehistory of earth and man (GA 11) (1st English ed.) (K. E. Zimmer, Trans.) (Original work published 1904) 1904/1959, San Francisco, CA: Harper & Row.
[83] R. Steiner, The Evolution of Consciousness as Revealed through Initiation Knowledge (GA 227) (2nd ed.) (V. E. W. & C. D., Trans.). [13 Lectures: Penmaenmawr, N. Wales, August 19 - 31, 1923] (Original published work 1926). 1926/1966, London: Rudolf Steiner Press. 198.
[84] F. Teichmann, The Emergence of the Idea of Evolution in the Time of Goethe. Research Bulletin, 2005. 11(1): p. 1-9.
[85] W.I. Thompson, Coming into Being: Artifacts and Texts in the Evolution of Consciousness. 1998, London: MacMillan Press Ltd.
[86] J. Wade, Changes of Mind: A Holonomic Theory of the Evolution of Consciousness. 1996, New York: SUNY Press.
[87] A. Gangadean, A Planetary Crisis of Consciousness: From Ego-based Cultures to a Sustainable Global World in Kosmos: An Integral Approach to Global Awakening 2006. p. 37-39.
[88] K. Wilber, Up from Eden: A Transpersonal View of Human Evolution (2nd ed.). 1996, Wheaton, IL: Quest Books.
[89] J. Gidley, Evolving Education: A Postformal-integral-planetary Gaze at the Evolution of Consciousness and the Educational Imperatives, in Education. 2008, Southern Cross University: Lismore. p. 571.
[90] R. Kegan, In Over Our Heads: the Mental Demands of Modern Life. 1994, Cambridge, Massachusetts: Harvard University Press.
[91] L. Kohlberg, Which Postformal Stages are Stages?, in Adult Development, Volume 2: Models and Methods in the Study of Adolescent and Adult Thought, M. Commons, et al., Editors. 1990, Praeger: Westport, CT.

[92] J. Kincheloe, S. Steinberg, P.H. Hinchey, eds. The post-formal reader: Cognition and education Critical Education Practice, ed. S. Steinberg and J. Kincheloe. 1999, Falmer Press: New York.
[93] J. Kincheloe, S. Steinberg, A Tentative Description of Post-Formal Thinking: The Critical Confrontation with Cognitive Theory. Harvard Educational Review, 1993. 63(3): p. 296-320.
[94] E. Morin, A.B. Kern, Homeland Earth: A Manifesto for the New Millennium (Translated Sean Kelly, Roger Lapoint Advances in Systems Theory, Complexity and the Human Sciences, ed. A. Montuori. 1999, Cresskill, NJ: Hampton Press.
[95] P. Teilhard de Chardin, The Future of Man. 1959/2004, New York: Image Books, Doubleday.
[96] E. Morin, Seven Complex Lessons in Education for the Future. 2001, Paris: UNESCO.

Jennifer Gidley, PhD, is a psychologist, educator and futures researcher. She is President (2009-2013) of the World Futures Studies Federation. She works globally creating networks between futures studies, integral studies and innovative education. She has published widely in educational and youth futures and evolution of consciousness. Key publications include: *The University in Transformation* (2000), *Youth Futures* (2002), *Futures in Education* (2004) and a recent special issue with Manfred B. Steger on "The Changing Face of Political Ideologies in the Global Age," *New Political Science* (2009).

---

[1] The recent book "Mindset" by the author of several popular books on megatrends [2] provides a litany of events that affect the mindset and gives suggestions as to how to change it. However, it only minimally addresses the major shifts in thinking discussed in this paper.
[2] Although this quote is well known, oft-cited, and always attributed to Einstein, I have not been able—in spite of numerous searches—to uncover its source.
[3] This bifurcation is a rough guide and the two categories are not necessarily mutually exclusive.
[4] The early pragmatism of William James was more spiritually oriented [29].
[5] Clearly this is a very small selection of the available key futures studies texts.
[6] The terms *spiritual* or *spirituality*, are used here to reflect worldviews that acknowledge that there is more to existence than matter. The use of *spiritual* is not intended to denote a particular theological or religious view.
[7] Evidence of earlier forms of more holistic, integral, unitive thinking abound but there has been a powerful reclaiming and reconceptualisation of such approaches in the last few decades.
[8] See also Hampson in this issue on countering atomism and economism.
[9] Bertalanffy developed *General Systems Theory* in 1945 [12].
[10] See Steger [76].
[11] Steiner's research combined significant academic study of the history of ideas (across all cultures) with particular attention to the evolutionary concepts of the German idealists and romantics while Sri Aurodindo's research was grounded in ancient Indian texts—contemporised and enriched by his study of German idealists such as Hegel (see also [8, 80])
[12] See also the contribution of H. G. Wells to this discourse (Patomaki and Steger in this issue).
[13] I am adapting the term *global imaginary*, as coined by Steger [76].
[14] Building on my postformal-integral-planetary approach to meta-cohering new knowledge patterns [89] Hampson (in this issue) proposes a not dissimilar manoeuvre with postformal-poetic-ecosophy.