

Futures of Education for Rapid Global-Societal Change

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INTRODUCTION

Education today in most of the world is more suited to the nineteenth-century industrial era than it is to the twenty-first century. There are three key aspects to this insight.

Firstly, knowledge is evolving. The fragmentation of knowledge through specialization is widely regarded as being unsuited to the complexity of the twenty-first century by scholars and thinkers from many fields (including complexity science, ecology, futures studies, integral studies, philosophy and psychology). Yet education is still largely a piecemeal affair.

Secondly, consciousness is evolving, and education needs to evolve with it. Research on the evolution of consciousness — pioneered by Rudolf Steiner in the early twentieth century (Steiner [1926] 1966) — has gathered impetus throughout the twentieth century. These theories are still marginalised by narrow Darwinian notions of biological evolution. However, evidence to support the evolution of consciousness comes from three main sources: from integral theorists (Donald 2001; Elgin 1997; Gangadean 2006; Hart 2001; László 2008; Russell 2000; Swimme 1992; Thompson 1998; Wade 1996); from adult developmental psychology research on postformal reasoning (Bassett 2005; Commons et al. 1990; Commons and Richards 2002; Cowan and Todorovic 2005; Kohlberg 1990; Labouvie-Vief 1992; Sinnott 1998, 2005; Torbert 2004); and from the literature on planetary consciousness (Benedikter 2007; Earley 1997; Elgin 1997; Gangadean 2006; László 2006; Montuori

1999; Morin and Kern 1999; Nicolescu 2002; Russell 2000; Swimme and Tucker 2006). My own research over the last decade on the evolution of consciousness confirms my view that education urgently needs to evolve (Gidley 2007a, 2007b, 2009, 2010a, 2010b).

Thirdly, education belongs in the realm of culture, not economics. Educational bureaucrats produce concepts such as the “knowledge economy” which appropriate education for the purpose of profit. While schooling was taken over during the Industrial Revolution to provide fodder for the factories, education is fundamentally a socio-cultural practice. In the post-industrial twenty-first century education needs to be primarily concerned with developing the minds, hearts and souls of young people, to live in an increasingly complex and uncertain world.

What do today’s educators know about, and think about, these challenges? What is the role of educational futures in these major developments? How can education transform itself to incorporate these new insights?

WHAT HAPPENED TO KNOWLEDGE IN THE TWENTIETH CENTURY?

Throughout the twentieth century, and increasingly in the last forty years, significant developments can be mapped in most, if not all, of the major academic disciplines. New ways of thinking have emerged within the disciplines of science, philosophy, psychology and education. There is also an emerging movement to integrate knowledge, to move beyond the fragmentation of knowledge associated with disciplinary specialisation via inter-, multi-, and trans-disciplinary approaches. These developments can be regarded as *enactments* of new ways of thinking and new knowledge patterns, respectively — and are arguably facets of the evolution of consciousness. An environmental scan of the major fields of knowledge identifies the following disciplinary developments as well as post-disciplinary developments:

- The scientific turn from classical physics to quantum physics followed by the shift from the closed systems of classical physics to the open systems of post-classical biology (Bertalanffy [1969] 1976), chaos and complexity sciences and emergentism (Combs 2002; Einstein [1920] 2000; Maturana and Varela [1980] 1991);
- The parallel — though more marginalised — philosophical turn from static mechanistic metaphors to organic, living, process metaphors of thinking (Bergson [1911] 1944; Deleuze and Guattari 1994; Steiner [1894] 1964; Whitehead [1929] 1985);
- The development of psychology beyond empirical and behaviourist approaches to approaches that include humanistic and person-centred, transpersonal and postformal perspectives.

In spite of these strengthening developments within and across many disciplines and knowledge fields, the institution of mass education, appropriated by the industrial era, has been pretty static since the onset of the Industrial Revolution.

If we are to cope with the complexity of global-societal change to be expected over the next 20–50–100 years, we must move beyond disciplinary and ideological siloism and develop new forms of knowledge coherence. Education can best be re-designed through deeply embracing the new thinking and knowledge patterns, and by replacing profit-driven metaphors such as “knowledge economy” with more culturally appropriate metaphors.



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NEW THINKING, NEW KNOWLEDGE PATTERNS AND GLOBAL KNOWLEDGE FUTURES

“Imagination is more important than knowledge. For while knowledge defines all we currently know and understand, imagination points to all we might yet discover and create.” Albert Einstein

It is not enough for educational futures to be primarily focused on external “trends” such as globalisation, economic and environmental crises, and so on, thus overlooking the major paradigm shifts rocking the foundations of knowledge for the last century. The “megatrends of the mind” are as important for higher education futures as the megatrends in the external world (Gidley 2010b).

Identifying New Thinking — Disciplinary Developments

A broad-based global scan of the 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 academic disciplines have undergone a major paradigm shift throughout the twentieth century.

Major shifts have occurred within scientific, philosophical and other disciplines since the beginning of the twentieth century.

Shifting Foundations of Science since Einstein

The modernist, formal, scientific worldview, based on Cartesian dualism and Newtonian classical physics — with its static notions of a mechanical, “building block” universe of atoms — is gradually being replaced by postmodern, postformal worldviews. Important scientific shifts of the twentieth century include:

- The shift from classical physics to quantum physics;
- The shift from the closed systems of classical physics to the open systems of post-classical biology (Bertalanffy [1969] 1976);
- The new sciences of chaos and complexity (Einstein [1920] 2000; Maturana and Varela [1980] 1991);
- The transition from classical biology, including Darwin’s theories of evolution, to the new biology-based theories of self-organisation and emergence (Deacon 2003; Goodenough and Deacon 2006; László 2007; Russell 2000).

Philosophical Shifts in the World of Ideas

A similar transition can also be observed in Western philosophical thought throughout the twentieth century from modernism to postmodernism and poststructuralism. The singular notion of “philosophy” — implying British analytic philosophy — has been increasingly accompanied by a greater “philosophical pluralism”(Mandt 1986). Significant twentieth-century philosophical shifts include:

- The shift from static mechanistic metaphors to organic, living, process metaphors of thinking (Bergson [1911] 1944; Deleuze and Guattari 1994; Steiner [1894] 1964; Whitehead [1929] 1985);
- The *linguistic turn* — the linguistic reflexivity of the French post-structuralists (Derrida 2001; Kristeva 1986);
- The awareness of continuity and historicity of European hermeneutics (Gadamer [1960] 2005; Habermas 1986; Heidegger [1927] 1962; Ricoeur 1985, 1988);
- The *religious turn* in continental philosophy (Habermas 2008; Manoussakis 2006) and the *spiritual turn* in the late works of the French postmodern philosophers (Benedikter 2005; Caputo 1997).

Postformal Psychology

Since the 1960s there were also major changes taking place in the way that scientific research per se was conceived and practiced. The emergence of the very broad approach to research, often referred to as postpositivism, seeded a plethora of research methodologies and concepts better suited to social science research than the reductionist forms of empirical research then dominating. Social scientists developed and worked with a diverse range of qualitative methods



Julian Germain, *Classroom Portraits*, 2004-2012. *Escola Estadual Nossa Senhora do Belo Ramo, Belo Horizonte, Minas Gerais, Brazil. Series 6, Mathematics. November 17th, 2005*

that were increasingly sensitive to the social construction of reality, subjectivities, cultural differences and the presence in researchers themselves of taken for granted values and other forms of tacit knowledge (Berger and Luckman 1966). This sowed seeds for major shifts in the discipline of psychology:

- From behaviourist to humanist, even transpersonal, psychology;
- From clinical models to positive psychology notions of human potential;
- From developmental notions of formal reasoning as the highest stage of thinking to several higher stages of postformal reasoning (Cook-Greuter 2000; Kegan 1994; Kohlberg 1990; Sinnott 1998).

Beyond Disciplinary Boundaries to New Knowledge Patterns

In parallel with these disciplinary developments, disciplinary specialisation itself is being transcended. Several approaches to knowledge have emerged in the second half of the twentieth century that seek to counterbalance the excesses of fragmentation, specialisation and reductionism in the dominant worldview. They attempt to create new systems of knowledge not bound by disciplinary constraints. As knowledge breaks the disciplinary boundaries it also moves beyond old conceptions of time and space, through:

- *Post-disciplinarity*: new attempts to create *knowledge-bridges* between disciplines, through interdisciplinary and transdisciplinary research (Grigg, Johnston and Milson 2003; Klein 2004; Nicolescu 2002; Ricoeur 1997; van den Besselaar and Heimeriks 2001);
- *Integration*: the emergence of systemic, holistic and integral thinking in various fields including philosophy (Gangadean 1998; Gidley 2006; Hampson 2007; László 2007; Wilber 2000);
- *Expanding notions of space*: the movement in political science from the centrality of nation-states to the concept of global, and hybrid concepts of global/local, glocal and even “glonacal” (Marginson 2004);
- *Expanding notions of time*: the transition from studying the past to an awareness of the value of foresight and futures thinking, in parallel, with the deconstruction of the modernist, linear narrative of time.

The Frontiers of Global Knowledge Futures

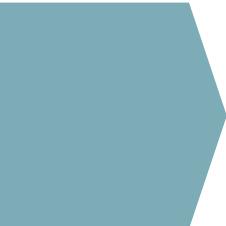
When taken together, these developments in thinking and systems of knowledge could be said to mark a paradigm shift from industrial worldviews associated with positivism, modernism, specialisation and formal reasoning, to postindustrial worldviews associated with post-positivism, postconventional, integral and postformal reasoning — arguably more suitable for “postnormal times”.

A deep analysis of the above-mentioned knowledge trends led to the discovery of several discourses that identify and/or enact new paradigms of thinking. Over the last few decades there have been various attempts to cohere these rapid changes and to theorise about them. The most significant discourses that either identify and/or enact new paradigm thinking are: postformal studies, integral studies and global/planetary studies (Gidley 2007b, 2010c).

Postformal Studies

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, paradox, pluralism, reflexivity, spirituality, values and wisdom (Cook-Greuter 2000; Kegan 1994; Kohlberg 1990; Sinnott 1998). Michael Commons et al. have identified up to four postformal stages of psychological development: systemic, meta-systemic, paradigmatic and cross-paradigmatic (Commons and Richards 2002). *Postformal studies* also includes the work of educational researchers who use the hyphenated form of *post-formal* in relation to critical and postmodern approaches to education (Kincheloe, Steinberg and Hinchey 1999). Educational researcher Joe Kincheloe referred to post-formality as “the socio-cognitive expression of postmodernism” (Kincheloe and Steinberg 1993, 309).



If we are to cope with the complexity of global-societal change to be expected over the next 20–50–100 years, we must move beyond disciplinary and ideological siloism and develop new forms of knowledge coherence

Integral Studies

Integral is a widely used term by several different schools of thought. The use of the term *integral* or *integrative* has become increasingly common in leading edge approaches to many disciplines. Some significant twentieth-century and contemporary writers working from a substantially integral perspective include Rudolf Steiner, Michael Polanyi, Jean Gebser, Sri Aurobindo Ghose, Ervin László, Ashok Gangadean, William Irwin Thompson and Ken Wilber. An important basis of the idea in its varied forms is that the complexity of the present times requires higher-order forms of thinking that go beyond the narrow specialisations of reductionist rationality. Integral approaches include multiples ways of knowing, being and acting in the world. By *integral studies* I include the various discourses that explicitly refer to their theoretical approaches as integral (such as Gebser, László, Sri Aurobindo and Wilber) and also those that can be regarded as integral according to the integrality of their approaches (such as Morin, Nicolescu and Steiner).

Planetary/Global Studies

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* (Teilhard de Chardin [1959] 2004). The term *planetary* — which primarily denotes an anthropo-socio-cultural and ecological framing — is 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 writings of French philosopher, Edgar Morin, who refers to the present times as the *Planetary Era*, which he claims began around five hundred years ago (Morin 2001; Morin and Kern 1999). By *global/planetary studies* I refer to the emerging discourses that use the term *planetary* in the following contexts: critical environmental, transcultural, philosophical and spiritual interests. I also include the political science and international relations literature that points to the shift from nationalistic to transnational and planetary/global worldviews.

A MACROHISTORICAL VIEW OF EDUCATION

In terms of *historical* perspectives on education, I have identified three broad phases: i) “informal education” via family/tribal enculturation, elite tutoring, and private religious schooling, prior to the beginnings of mass public education approximately two hundred years ago; ii) “formal school education”, from late eighteenth to twentieth centuries in Europe, USA and increasingly in other parts of the world last century; and iii) a diversity of postformal pedagogies, beginning in the late twentieth century and — one would hope — flourishing throughout the twenty-first century and beyond (See Table 1). This table refers primarily to the situation in the so-called developed world. The situation is far more diverse and complex in traditional and non-Western-European-based cultures.



Table 1. Socio-Cultural, Political and Educational Phases

	<i>Prehistory to 18th Century</i>	<i>18th to 20th Century</i>	<i>20th to 21st Century and Beyond</i>
Socio-Cultural Phases	Pre-modern	Modern	Post-modern
Political Phases	City-states	Nation-states	Global-planetary
Educational Phases	<i>Informal</i> family/tribal enculturation, or elite tutoring	<i>Formal</i> schooling, mass education, factory-model	Pluralism of <i>postformal</i> pedagogies, integral, planetary sensibility



Julian Germain, *Classroom Portraits*, 2004-2012. Omar Bin Al-Khattab Educational Complex, Boys' Science Secondary School, Doha, Qatar. Grade 10, Religion. March 13th, 2007

From Informal to Formal to Postformal Education

Prior to the Industrial Revolution, which embedded modernist ideas into the socio-cultural fabric of Western society, education for children was not such a formal process, even in the Western world. Children were enculturated by their extended families and cultures and only the children of the wealthy — who could afford private tutors — or those who wished to become clerics had any formal education. Earlier integrally-inspired educational reform had been initiated in the seventeenth century by Moravian educational theorist Johann Ámos Komenský (more frequently called by his Latin name, Comenius) who wrote the influential *Didactica Magna*, which proposed a three-tier universal schooling system for all children (Dahlin 2006). Subsequently in Germany, the notion of the evolution of consciousness, which was a major contribution of German idealists and romantics such as Goethe, Hegel, Schelling and Novalis, contributed to the initial impulse for mass public school education, which began in Germany in the late eighteenth century. This was carried forward particularly through Schiller's aesthetic educational principles

(Schiller [1954] 1977), Herbart's integrative pedagogical system (Klein 2006) and Humboldt's implementation of public education (Holborn 1964). However, after the deaths of these leading German philosophers, by the middle of the nineteenth century the idealist-romantic educational project was largely hijacked in western Europe by the gradual influence of the British Industrial Revolution, so that schools increasingly became training grounds to provide fodder for the factories. This factory model of school education was picked up in the USA around 150 years ago (Dator 2000).

I have begun to use the phrase “evolutionary pedagogies” as an alternative to “educational reform” or even “educational transformation”. This is because I want to highlight the scope of the transition we, as humans in a planetary age, are undergoing. The notion of “educational reform” very often only tinkers at the surface of appearances — a bit like rearranging the deckchairs on the Titanic. While the notion of “educational transformation” potentially goes further than “reform”, it can be limited by the philosophical perspective, ideology — or even paradigm — that it subscribes to. The meaning that I ascribe to my notion of evolutionary pedagogies is one that connects education more consciously with the evolution of new patterns of thinking.

I have scanned the Anglophone educational literature for signs of emerging pedagogies that are reflecting one or more of the features of postformal, integral or planetary consciousness. There is a lot of encouraging material being written about new educational approaches in the last decade. There is also a very powerful neo-fundamentalist backlash in the Anglo countries from government-backed educrats who seek to dominate the educational agenda with scientism, economism and technicism — through the “audit culture” (MacLure 2006). On the other hand, there are also several educational theorists and researchers who are attempting to expose and counter this reactionary neo-conservatism (Abbs 2003; Coryn, Schröter and Scriven 2005; Denzin 2005; MacLure 2006).

The Evolutionary Waves in Twentieth to Twenty-first Century Education

There have been three waves of educational impulses since the beginning of the twentieth century that contribute to the evolution of education.

First Wave: Weak Signals from the Early Twentieth Century

Although much of European and Anglo education did lose its initial idealist/romantic impulse during the nineteenth century, and succumbed to the weight of industrialism, secularism, and materialism, new threads began to emerge in various parts of the world in the early twentieth century. There were Maria Montessori and Rudolf Steiner in continental Europe, Alfred North Whitehead in the UK, John Dewey in the USA and Sri Aurobindo in India, all pioneering more integral, organic educational approaches that provided a counter-weight to the dominant factory

model. They emphasised imagination, aesthetics, organic thinking, practical engagement, creativity, spirituality, and other features that reflect the emergent integral consciousness. These educational pioneers were also futures-oriented in that they all subscribed in some way to evolutionary notions of consciousness, culture and even cosmos. However, these approaches have mostly remained marginalised, or in the case of Dewey's initiative, been appropriated in a reduced form by the mainstream system as so called "progressive education".

The commodification of knowledge abounds as a socio-cultural by-product of globalization. Borrowing heavily from industrial-era metaphors, education is now marketed as the "product" in a globally competitive "knowledge industry"

Second Wave: "Alternative" Education, a 1970s Trend

What I call the *second wave* was sparked by the dramatic consciousness changes that erupted in 1968 with the student protests in Paris, followed rapidly by the 1969 Woodstock Peace Festival in the USA, which laid foundations for a youth peace movement against the Vietnam War. These events also paralleled the arrival of futures studies on the academic scene with the journal *Futures* being founded in 1968 along with significant global meetings such as *Mankind 2000* that led to the forming of the *World Futures Studies Federation* (WFSF) in Paris in 1973. These events coincided with the beginning of various "new age" movements, including participatory politics, new forms of music, east-west spiritual-philosophical dialogues, new gender relations, post-nuclear family lifestyles and recreational use of "designer" drugs. These movements were taken up quite strongly in the Anglo countries, particularly in pockets of the USA and, at least indirectly, they began to shift ideas about formal education. The 1970s to 1990s saw a broadening of alternative educational modes, including home-schooling (Holt 1970), holistic education (J. P. Miller 2000; R. Miller 1990, 1999), critical pedagogy (Freire 1970; Illich 1975), futures education (Fien 1998; Gough 1989; Hicks 1998; Rogers 1998; Slaughter 1989), and a raft of educational reforms within mainstream settings. All were critical of the formal, modernist "factory-model" of mass education. Most sought to broaden education beyond the simple information-processing model based on a mechanistic view of the human being to a more holistic, creative, multifaceted, embodied and participatory approach. Yet not all honour the spiritual needs or the multi-layered nature of the developing child, as part of a consciously evolving human species. Furthermore, these approaches are still minor threads and unfortunately most approaches are also isolationist in relation to each other.



Julian Germain, *Classroom Portraits*, 2004-2012. Guard House Primary School, Keighley, West Yorkshire, UK. Year 6, History. October 19th, 2005

Third Wave: Postformal Pedagogies

The late twentieth and early twenty-first centuries mark an important transition from formal, factory-model school and university education. We are currently experiencing a *third wave* of impulses to evolve education. I refer broadly to these third wave approaches to evolving education as “*postformal pedagogies*”. 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: Gidley 2009). 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 twenty-first century is alive and well, creative and innovative, it is worth noting that all of these are relatively small counterstreams to the dominant hegemonic factory model of education. 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. Such an integration of third wave educational approaches could lead to a deep shift from an economics-driven concept of *global knowledge economy* to more human-centred *global knowledge futures*.

FROM GLOBAL KNOWLEDGE ECONOMY TO GLOBAL KNOWLEDGE FUTURES

“Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?”

T. S. Eliot, 1934, *The Rock*

“One of the greatest problems we face today is how to adjust our way of thinking to meet the challenge of an increasingly complex, rapidly changing, unpredictable world. We must rethink our way of organising knowledge.”

(Morin 2001, 5)

The two quotes opening this section speak of knowledge. The first is from American-British poet, T. S. Eliot, and the second is from French philosopher, Edgar Morin. Eliot bemoans the loss of wisdom while Morin hints at its reawakening. Perhaps it takes the eye of an artist, a poet, to perceive the loss of wisdom in the stripped-down, prosaic pragmatism of the *Information Era*. Yet it is a philosopher — a lover of wisdom — who actively thinks towards more complex ways of organizing knowledge in the *Planetary Era*.

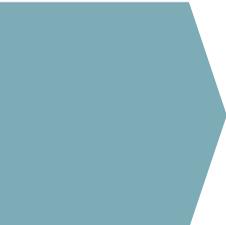
As Eliot indicates, the modern era of hyper-rationality and hyper-specialization has been a reductive process in which the pre-modern unitive worldview of inherited, or revealed, “wisdom”

has been superseded by bits — and, more recently, bytes — of information. In this context, the term “new knowledge” is often used to mean new technologies.

In addition to this fragmentation, commodification of knowledge abounds as a socio-cultural by-product of globalization. Borrowing heavily from industrial era metaphors, education is now marketed as the “product” in a globally competitive “knowledge industry”.

At the close of the first decade of the twenty-first century, some of the most creative, innovative, and dynamic knowledge around the globe is being produced and disseminated *outside* mainstream universities. Academic researchers and research council bureaucrats need to take heed. Now that “knowledge production”, “knowledge transfer”, and “knowledge dissemination” have become core commodities of the increasingly competitive global knowledge market economy, how will universities and their research centres keep up?

While the juggernaut of old-paradigm thinking keeps its hold on educational institutions, the burgeoning of new knowledge “paradigms” is breaking through from the periphery. A plethora of private providers, social movements, niche research institutes, open source resources, edutainment and, of course, the ubiquitous information kaleidoscope of the worldwide web, make it increasingly difficult for the former bastions of knowledge production and dissemination — formal educational institutions to compete for “market-share”. But is competition the best way forward? Could it be that the leadership of universities and research councils need to listen more deeply to the periphery — to the new, unorthodox developments in the creation and dissemination of knowledge?



More complex, self-reflective, organic ways of thinking will be vital in re-shaping education so young people are better equipped for the complexity, paradox and unpredictability of life in the twenty-first century

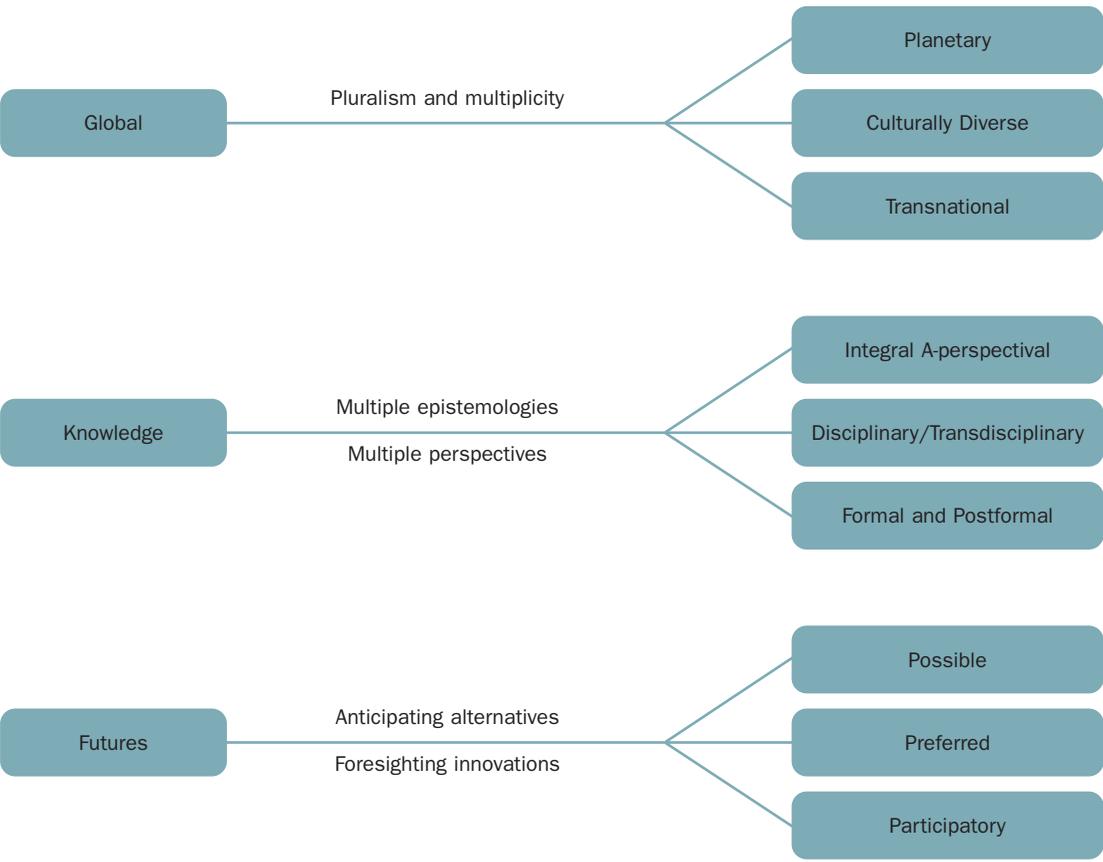
We also hear the term *information era* as if it were a complete encapsulation of the present phase of cultural evolution. The proponents of the information era generally fail to attend to the evolutionary move beyond mere ‘information’ to new ways of knowing, new knowledge patterns and the emergence of knowledge integration.

The insinuation of neoliberal economic theory into all walks of life — including education — has led to the reframing of education as a subset of the new “knowledge economy”. In this new knowledge economy, we can witness nations and regions scrambling to grab market-share through creating “science parks”, “education cities” and “knowledge hubs”. The most disturbing aspect of this “globalization of knowledge” is that it frequently reflects

Building on the evolution of consciousness literature, my phrase *global knowledge futures* can be teased out semiotically to clearly distinguish it from the hyper-modernist *global knowledge economy*. The cultural pluralism implied in my notion of global, and the ideological diversity in my notion of futures, fold back into the term knowledge, enriching it and opening it up to insights from the frontier discourses discussed above that are central to global knowledge futures (see Figure 2).



Figure 2. Global Knowledge Futures — Dynamic Unity in Dialogue with Diversity



VISIONARY FUTURES OF EDUCATION FOR RAPID GLOBAL SOCIETAL CHANGE

If we are to seriously move beyond the business-as-usual stance of the guardians of old paradigm thinking, we need to embrace new ways of thinking and patterns of knowledge,



Julian Germain, *Classroom Portraits, 2004-2012*. Al Tadhamon Boys' School, Malah, Rada', Yemen. Year 1 Intermediate, Mathematics. May 13th, 2007

consciously co-create our own evolving consciousness, and wrest education back from the economists and auditors so that it reclaims its place as a vital component of cultural development. In these ways, the nineteenth-century factory model of formal education will have been *postformalised* to suit it for the twenty-first century.

To these ends educators would begin by integrating the following twentieth-century knowledge developments into their thinking about education:

- Post-classical sciences including quantum physics, chaos and complexity, emergentism, open systems;
- Postmodern, poststructuralist and comparative philosophies;
- Postformal reasoning, including complexity, creativity, paradox, reflexivity;
- Inter- and transdisciplinarity;
- Systemic, holistic and integral theories;
- Global and planetary perspectives;
- Foresight and long-term futures thinking.

Secondly, as the implications of the evolution of consciousness begin to be fully appreciated by educators, the skills-based, reductionist, fragmented, profit-driven factory model of education from the past will gradually be recognized as the anachronism it is. There will be a diverse flourishing of postformal educational centres, offering much greater creativity, reflexivity, imagination, dialogue, paradox and the many other features of postformal reasoning that are emerging in high-functioning adults today who are open to them.

Thirdly, in due course education will de-link from economics and reclaim its place in the cultural domain. From that time teachers will no longer be primarily childminders, researchers will not expect to be primarily fundraisers, and university courses will be oriented more towards the whole development of the students, rather than pointing them towards jobs that will no longer exist. Once the profit motive has been removed from education and replaced by cultural higher purpose the following issues may also attract serious futures thinking and attention from education experts:

- Environmental degradation now includes more dramatic climate conditions;
- After the GFC the limits to growth discourse is even more pertinent;
- Social and global justice are far from commonplace;
- Cultural pluralism and the needs of the global south require sustained focus.

In summary, the systemic knowledge shifts of the last century are facets of complex processes that are as yet little understood in terms of their significance for the future of ideas and the culture of education. These diverse, independent, yet interconnected movements pave the way for the emergence of more living and pluralistic approaches to education and knowledge futures. Education researchers, practitioners and policymakers need to take serious account of these dramatic shifts in ideas and ways of organising knowledge. More complex, self-reflective, organic ways of thinking will be vital in re-shaping education so young people are better equipped for the complexity, paradox and unpredictability of life in the twenty-first century.

REFERENCES

- Abbs, P. 2003. *Against the Flow: The Arts, Postmodern Culture and Education*. London: Routledge Falmer.
- Bassett, C. 2005. "Wisdom in Three Acts: Using Transformative Learning to Teach for Wisdom" [Electronic version]. Paper presented in October at the Sixth International Transformative Learning Conference, East Lansing, Michigan.
- Benedikter, R. 2005. "Postmodern Spirituality: A Dialogue in Five Parts." Retrieved 28 June, 2006, from <http://www.integralworld.net/index.html?benedikter1.html>
- Benedikter, R. 2007. "Global Systemic Shift: The 'Three Ends' of our Epoch and their Perspective in the Interplay between the Four System Spheres Economics, Politics, Culture and Religion." Paper presented at the James Martin Advanced Research Seminar Programme, Oxford University.
- Berger, P. L., and T. Luckman. 1966. *The Social Construction of Reality*. New York: Doubleday.
- Bergson, H. [1911] 1944. *Creative Evolution*. New York: Macmillan & Co.
- Bertalanffy, L. V. [1969] 1976. *General Systems Theory: Foundations, Development, Applications*. New York: George Braziller, Inc.
- van den Besselaar, P., and G. Heimeriks. 2001. *Disciplinary, Multidisciplinary, Interdisciplinary: Concepts and Indicators*. Paper presented in July at the 8th Conference on Scientometrics and Informetrics, Sydney, Australia.
- Caputo, J. D. 1997. *The Prayers and Tears of Jacques Derrida: Religion without Religion*. Bloomington and Indianapolis: Indiana University Press.
- Combs, A. 2002. *The Radiance of Being: Understanding the Grand Integral Vision: Living the Integral Life*. St. Paul, MI: Paragon House.
- Commons, M., et al. (eds.), 1990. *Adult Development, 2: Models and Methods in the Study of Adolescent and Adult Thought*. Westport, CT: Praeger.
- Commons, M. L., and F. A. Richards. 2002. "Organizing Components into Combination: How Stage Transition Works." *Journal of Adult Development* 9 (3), 159–177.
- Cook-Greuter, S. R. 2000. "Mature Ego Development: A Gateway to Ego Transcendence." *Journal of Adult Development* 7 (4), 227–240.
- Coryn, C. L. S., D. C. Schröter and M. Scriven. 2005. "A Call to Action: The First International Congress of Qualitative Inquiry." *Journal of MultiDisciplinary Evaluation* 3 (October), 155–165.
- Cowan, C. C., and N. Todorovic. 2005. *Dr. Clare W. Graves Explores Human Nature: The Never Ending Quest: A Treatise on an Emergent Cyclical Conception of Adult Behavioural Systems and their Development*. Santa Barbara: ECLET Publishing.
- Dahlin, B. 2006. *Education, History and Be(com)ing Human: Two Essays in Philosophy and Education*. Karlstad: Karlstad University.
- Dator, J. 2000. "The Futures for Higher Education: From Bricks to Bytes to Fare Thee Well!" In S. Inayatullah and J. Gidley (eds.), *The University in Transformation: Global Perspectives on the Futures of the University*. Westport, CT: Bergin & Garvey.
- Deacon, T. W. 2003. "The Hierarchic Logic of Emergence: Untangling the Interdependence of Evolution and Self-Organisation." In B. Weber and D. Depew (eds.), *Evolution and Learning: The Baldwin Effect Reconsidered*. Cambridge, MA: MIT Press, 273–308.
- Deleuze, G., and F. Guattari. 1994. *What is Philosophy?* New York: Columbia University Press.
- Denzin, N. 2005. "The First International Congress of Qualitative Inquiry". *Qualitative Social Work* 4 (1), 1105–1111.
- Derrida, J. 2001. "Structure, Sign, and Play in the Discourse of the Human Sciences." *Writing and Difference*, 278–294. Retrieved from <http://www.hydra.umn.edu/derrida/sign-play.html>
- Donald, M. 2001. *A Mind so Rare: The Evolution of Human Consciousness*. New York: W. W. Norton and Company.
- Earley, J. 1997. *Transforming Human Culture: Social Evolution and the Planetary Crisis*. New York: Suny Press.
- Einstein, A. [1920] 2000. *Relativity: The Special and General Theory*. Available at <http://www.bartleby.com/173/>
- Elgin, D. 1997. *Global Consciousness Change: Indicators or an Emerging Paradigm*. San Anselmo, CA: The Millennium Project.
- Fien, J. 1998. "Environmental Education for a New Century." In D. Hicks and R. Slaughter (eds.), *World Yearbook 1998: Futures Education*. London: Kogan Page.

- Freire, P. 1970. *Pedagogy of the Oppressed*. New York: Herder and Herder.
- Gadamer, H. G. (1960) 2005. *Truth and Method*. Second revised edition. London: Continuum International Publishing Group.
- Gangadean, A. 1998. *Between Worlds: The Emergence of Global Reason* 17. New York: Peter Lang.
- Gangadean, A. 2006. "A Planetary Crisis of Consciousness: From Ego-based Cultures to a Sustainable Global World." *Kosmos: An Integral Approach to Global Awakening* V: 37–39.
- Gidley, J. 2006. "Spiritual Epistemologies and Integral Cosmologies: Transforming Thinking and Culture." In S. Awbrey et al. (eds.), *Integrative Learning and Action: A Call to Wholeness* 3. New York: Peter Lang Publishing, 29–55.
- Gidley, J. 2007a. "Educational Imperatives of the Evolution of Consciousness: The Integral Visions of Rudolf Steiner and Ken Wilber." *International Journal of Children's Spirituality* 12 (2): 117–135.
- Gidley, J. 2007b. "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* 5: 4–226.
- Gidley, J. 2009. "Educating for Evolving Consciousness: Voicing the Emergency for Love, Life and Wisdom." *The International Handbook of Education for Spirituality, Care and Wellbeing*. New York: Springer.
- Gidley, J. 2010a. "Evolving Higher Education Integrally: Delicate Mandalic Theorising." In S. Esbjörn-Hargens, O. Gunnlaugson and J. Reams (eds.), *Integral Education: New Directions for Higher Learning*. New York: State University of New York Press, 345–361.
- Gidley, J. 2010b. "Globally Scanning for Megatrends of the Mind: Potential Futures of 'Futures Thinking.'" *Futures: The Journal of Policy, Planning and Futures Studies* 42 (10), 1040–1048.
- Gidley, J. 2010c. "An Other View of Integral Futures: De/reconstructing the IF Brand." *Futures: The Journal of Policy, Planning and Futures Studies* 42 (2), 125–133.
- Goodenough, U., and T. W. Deacon. 2006. "The Sacred Emergence of Nature." In P. Clayton (ed.), *Oxford Handbook of Science and Religion* Oxford: Oxford University Press, 853–871.
- Gough, N. 1989. "Seven Principles for Exploring Futures in the Curriculum." In R. Slaughter (ed.), *Studying the Future: An Introductory Reader*. Melbourne: Commission for the Future, Bicentennial Futures Education Project, 51–59.
- Grigg, L., R. Johnston, and N. Milson. 2003. *Emerging Issues for Cross-Disciplinary Research: Conceptual and Empirical Dimensions*. Canberra: DEST, Commonwealth of Australia.
- Habermas, J. 1986. "A Review of Gadamer's Truth and Method." In B. R. Wachterhauser (ed.), *Hermeneutics and Modern Philosophy*. Albany, NY: Suny Press, 243–276.
- Habermas, J. 2008. *Between Naturalism and Religion: Philosophical Essays*. London: Polity Press.
- Hampson, G. P. 2007. "Integral Reviews Postmodernism: The Way Out is Through." *Integral Review: A Transdisciplinary and Transcultural Journal for New Thought, Research and Praxis* 4: 108–173.
- Hart, T. 2001. *From Information to Transformation: Education for the Evolution of Consciousness*. New York: Peter Lang.
- Heidegger, M. (1927) 1962. *Being and Time*. Oxford: Blackwell.
- Hicks, D. 1998. "Identifying Sources of Hope in Post-Modern Times." In D. Hicks and R. Slaughter (eds.), *World Yearbook of Education 1998: Futures Education*. London: Kogan Page.
- Holborn, H. 1964. *A History of Modern Germany, 1648–1840*. Princeton, NJ: Princeton University Press.
- Holt, J. 1970. *How Children Learn*. Harmondsworth, Middlesex: Pelican.
- Illich, I. 1975. *Deschooling Society*. London: Calder and Boyers.
- Kegan, R. 1994. *In Over Our Heads: the Mental Demands of Modern Life*. Cambridge, MA: Harvard University Press.
- Kincheloe, J., and S. Steinberg. 1993. "A Tentative Description of Post-Formal Thinking: The Critical Confrontation with Cognitive Theory." *Harvard Educational Review* 63 (3): 296–320.
- Kincheloe, J., S. Steinberg, and P. H. Hinchey (eds.), 1999. *The Post-Formal Reader: Cognition and Education*. New York: Falmer Press.
- Klein, J. T. 2004. "Prospects for Transdisciplinarity." *Futures* 36 (4): 515–526.
- Klein, J. T. 2006. "A Platform for a Shared Discourse of Interdisciplinary Education." *Journal of Social Science Education* 2, electronic version.
- Kohlberg, L. 1990. "Which Postformal Stages are Stages?" In M. Commons et al. (eds.), *Adult*

- Development 2: Models and Methods in the Study of Adolescent and Adult Thought*. Westport, CT: Praeger.
- Kristeva, J. 1986. *The Kristeva Reader*. New York: Columbia University Press.
- Labouvie-Vief, G. 1992. "Wisdom as Integrated Thought: Historical and Developmental Perspectives." In R. Sternberg, J. Berg and C. A. Berg (eds.), *Wisdom: its Nature, Origins, and Development*. Cambridge: Cambridge University Press.
- László, E. 2006. *The Chaos Point: The World at the Crossroads*. Charlottesville, VA: Hampton Roads Publishing Company, Inc.
- László, E. 2007. *Science and the Akashic Field: An Integral Theory of Everything*. Rochester, VT: Inner Traditions.
- László, E. 2008. *Quantum Shift in the Global Brain: How the New Scientific Reality Can Change Us and our World*. Rochester, VT: Inner Traditions.
- MacLure, M. 2006. "The Bone in the Throat: Some Uncertain Thoughts on Baroque Method." *International Journal of Qualitative Studies in Education* 19 (6 November–December): 729–745.
- Mandt, A. J. 1986. "The Triumph of Philosophical Pluralism? Notes on the Transformation of Academic Philosophy." *Proceedings and Addresses of the American Philosophical Association* 60 (2): 265–277.
- Manoussakis, J. P. 2006. *After God: Richard Kearney and the Religious Turn in Continental Philosophy*. New York: Fordham University Press.
- Marginson, S. 2004. "Competition and Markets in Higher Education: A 'Glonacal' Analysis." *Policy Futures in Education* 2 (2): 175–244.
- Maturana, H., and F. Varela. [1980] 1991. *Autopoiesis and Cognition: The Realization of the Living*. New York: Springer.
- Miller, J. P. 2000. *Education and the Soul: Towards a Spiritual Curriculum*. Albany, NY: State University of New York Press.
- Miller, R. 1990. *What Are Schools For? Holistic Education in American Culture*. Brandon, Vermont: Holistic Education Press.
- Miller, R. 1999. "Holistic Education for an Emerging Culture." In S. Glazer (ed.), *The Heart of Learning: Spirituality in Education*. New York: Putnam.
- Montuori, A. 1999. "Planetary Culture and the Crisis of the Future." *World Futures: the Journal of General Evolution* 54 (4): 232–254.
- Morin, E. 2001. *Seven Complex Lessons in Education for the Future*. Paris: Unesco.
- Morin, E., and A. B. Kern. 1999. *Homeland Earth: A Manifesto for the New Millennium*. Cresskill, NJ: Hampton Press.
- Nicolescu, B. 2002. *Manifesto of Transdisciplinarity*. New York: Suny Press.
- Ricoeur, P. (1985) 1988. *Time and Narrative* 3. Chicago: University of Chicago Press.
- Ricoeur, P. 1997. *The Rule of Metaphor: Multidisciplinary Studies of the Creation of Meaning in Language*. Toronto: University of Toronto Press.
- Rogers, M. 1998. "Student Responses to Learning about the Future." In D. Hicks and R. Slaughter (eds.), *World Yearbook of Education 1998: Futures Education*. London: Kogan Page.
- Russell, P. 2000. *The Global Brain Awakens: Our Next Evolutionary Step*. Melbourne: Element Books.
- Schiller, F. [1795] 1977. *On The Aesthetic Education of Man – In a Series of Letters*. New York: Frederick Ungar Publishing.
- Sinnott, J. D. 1998. *The Development of Logic in Adulthood: Postformal Thought and its Applications*. New York: Springer.
- Sinnott, J. D. 2005. "The Dance of the Transforming Self: Both Feelings of Connection and Complex Thought are Needed for Learning." *New Directions for Adult and Continuing Education* 108 (Winter): 27–37.
- Slaughter, R. 1989. "What is Futures Education?" In R. Slaughter (ed.), *Studying the Future: an Introductory Reader*. Melbourne: Commission for the future, Bicentennial futures education project, 10–20.
- Steiner, R. (1894) 1964. *The Philosophy of Freedom: The Basis for a Modern World Conception (GA 4)*. Spring Valley, NY: The Anthroposophic Press.
- Steiner, R. (1926) 1966. *The Evolution of Consciousness as Revealed through Initiation Knowledge (GA 227)*. 13 Lectures: Penmaenmawr, N. Wales, August 19–31, 1923. London: Rudolf Steiner Press.
- Swimme, B. 1992. *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era Celebration of the Unfolding Cosmos*. New York: Harper Collins Publishers.
- Swimme, B., and M. E. Tucker. 2006. "The Evolutionary Context of an Emerging Planetary Civilization." *Kosmos: An Integral Approach to Global Awakening* V: 7–8.
- Teilhard de Chardin, P. [1959] 2004. *The Future of Man*. New York: Image Books, Doubleday.
- Thompson, W. I. 1998. *Coming into Being: Artifacts and Texts in the Evolution of Consciousness*. London: MacMillan Press Ltd.

Torbert, W. R. 2004. *Action Inquiry: The Secret of Timely and Transforming Leadership*. San Francisco, CA: Berrett-Koehler Publishers.

Wade, J. 1996. *Changes of Mind: A Holonomic Theory of the Evolution of Consciousness*. New York: Suny Press.

Whitehead, A. N. (1929) 1985. *Process and Reality*. New York: Free Press.

Wilber, K. 2000. *A Theory of Everything: An Integral Vision for Business, Politics, Science and Spirituality*. Boulder: Shambhala.

EDUCATION TODAY HAS MORE IN COMMON WITH THE NINETEENTH-CENTURY INDUSTRIAL AGE THAN WITH THE TWENTY-FIRST CENTURY. IT IS FRAGMENTED AND COMPARTMENTALIZED, CLINGING TO A FACTORY APPROACH TO LEARNING. WE NEED TO MOVE AWAY FROM MASS EDUCATION TOWARDS PLURALISM AND PLANETARY SENSIBILITY. KNOWLEDGE IS EVOLVING, CONSCIOUSNESS IS EVOLVING, AND EDUCATION NO LONGER SITS COMFORTABLY IN THE REALM OF ECONOMICS: IT IS AN INTEGRAL PART OF CULTURE AND SHOULD BE TREATED AS SUCH. THIS ESSAY CONSIDERS WHAT TODAY'S EDUCATORS THINK ABOUT THESE CHALLENGES. WHAT ROLE SHOULD EDUCATION PLAY? HOW CAN EDUCATION TRANSFORM ITSELF TO REFLECT THE INCREASING COMPLEX WORLD AROUND IT? THE AUTHOR PROPOSES THE NOTION OF *GLOBAL KNOWLEDGE FUTURES*, A SHIFT AWAY FROM THE REDUCTIONISM OF THE CONCEPT *GLOBAL KNOWLEDGE ECONOMY*. SHE ARGUES FOR LIVING, PLURALISTIC APPROACHES TO EDUCATION THAT ARE FOUNDED ON MORE COMPLEX, SELF-REFLECTIVE AND ORGANIC WAYS OF THINKING. THIS SHIFT IN PARADIGM WILL BE VITAL TO HELP YOUNG PEOPLE PREPARE FOR LIFE IN THE TWENTY-FIRST CENTURY.

BIOGRAPHY

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