

What Kind of Education Should You Experience at a University¹

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Abstract

This paper addresses higher education and specifically universities and their role in the development of moving toward a sustainable and ecologically sound and vibrant society. The premise in this piece is that universities are caught between two competing visions as to the road that they should travel in this new century. One is the vision of the global market with, as its bottom line, cost effective market priorities. The second vision is a view that the university should situate itself in the universe story and develop priorities that move toward a planetary consciousness with an emphasis on sustainable living.

Résumé

Cet article traite des études supérieures et, plus particulièrement, des universités ainsi que du rôle de ces dernières dans la création et l'adoption progressive d'une société viable, dynamique et respectueuse de l'environnement. L'article émerge de l'idée suivante : lorsqu'elle doit décider de son orientation en ce siècle nouveau, l'université est aux prises avec deux visions opposées. La première est celle d'un marché mondial qui dicte l'adoption des priorités du marché les plus rentables. La seconde avance que l'université doit se situer dans l'Histoire universelle et adopter des priorités favorisant une conscience planétaire et assurant, surtout, un avenir viable et durable.

Unless we live our lives with at least some cosmological awareness, we risk collapsing into tiny worlds. For we can be fooled into thinking that our lives are passed in political entities, such as the state or a nation; or that the bottom-line concerns in life have to do with economic realities of consumer life-styles. In truth, we live in the midst of immensities. (Swimme, 1996, p. 60)

A Personal Prologue

In 1956 at the age of 18, I graduated from high school in the United States. I did not have an illustrious career as a high school student and I was anything but a highly motivated scholar. As a consequence I did not, in contrast to many of my friends, gain entrance into college or university. In truth, I had no idea what I might be missing at the time by not attending a college or university.

I was the youngest son of Irish immigrant parents, and it was understood by me that I was to complete high school like my older siblings. My brother and sisters did well in high school, in contrast to myself, but a university education was not expected of children in working class families like my own. The fact of the matter was that I was coming from the first generation of working class kids who were given the opportunity to attend university.

My eventual entrance into a university is a story worth telling because there may be some lessons that can be learned. I started that summer after my high school graduation as a carpenter's apprentice. My father was a master carpenter and I decided to apprentice with him as a carpenter in the carpenter's union. That first summer, my apprenticeship started by working on a new building that was being built by a local Jesuit college: St. Peter's College. When this building was eventually completed, it was named Dineen Hall after a revered Jesuit Father. All that summer I worked on St. Peter's and got to know the President and the Dean of Admissions of St. Peter's who visited the work site frequently. Throughout that summer, the older carpenters kept telling me that I should be trying university before carpenter apprenticeship. Little did they know that I was not an acceptable candidate for a university because of my marginal high school performance. What happens next is one of the major turning points of my life.

The supervisor of this construction site talked to the College President, Father Shanahan, and apparently encouraged him to encourage me to consider going on into college. When Father Shanahan spoke to me I told him that my high school record was poor and I had already been refused entry into this college. This fine man said that he would look at my high school record and have the Dean of Admissions talk to me about the possibility of giving me entry for a trial period. A short time later, on a very hot summer day, Father Shanahan told me that the Dean of Admissions had reviewed my records. I went to the Deans office in my carpenters overalls. The Dean had my records in front of him and in the kindest manner possible told me that my high school record indicated that I would probably not succeed in university. To my incredible good fortune, he also told me he would give me a chance to try it if I wanted to take a run at it. As is often said, "the rest is history."

My parents' support helped me make the decision to give university education a try. At the time, I understood further education as the route to a better job. As a working class kid, I first understood it as a route from blue collar work to one of white collar work. I enrolled in the business school due to my limited idea of what a college and university education accomplished. To be more specific, my first thought was to be a negotiator for the carpenter's union. It looked like an interesting vocation and was held in great respect by rank and file union members. These were my first thoughts as I was about to enter my first semester in the business program at St. Peter's College.

From the outset I had enormous catch-up to do; I was in over my head. College was very interesting and different from high school. In spite

of my interest, I needed to work twice as hard as my peers at the beginning and would study literally 6 to 7 hours after my day classes. The first semester at St. Peter's went from the beginning of September through the middle of January. By Christmas, I knew I was going to pass all my subjects and be able to continue on in the spring semester at St. Peter's.

In early December, another momentous event happened that was to affect the course of my whole life; I can see that event from hindsight. I was taking care of my sister's child on a Friday evening and was studying as usual. I was not clearly out of the woods and still burning the midnight oil. I took a break at 10:00 pm to watch the Friday night fights on television; an event that I watched each week because I was an avid boxing fan. The fight ended early. In contrast to TV today, there were no further programs for that evening. Before getting back to my business accounting book, I went to check on my nephew. When I was leaving the room I saw two books in a bookcase and decided to take a peak. One book was *Henry Esmond* by W.M Thackeray and the other was the *Dialogues* of Plato. I briefly looked at Thackeray and put it down, picking up Plato's *Dialogues*. I had no idea what was in this book or what Plato was about. Up until this point in my life I was a person who lived on the surface of life. In very terse terms, the last thing anyone would call me was "a deep thinker." The fact of the matter was that I was one of the class clowns in my high school. What follows is sense of what happened when I opened the *Dialogues*.

When I opened the book, I noted that it was divided up into different dialogues. There was the Apology, Crito, Phaedo, Symposium, and the Republic. I started reading the Apology before midnight and I completed the Symposium by about 6:00 am the next morning. The effects of encountering these dialogues were truly profound. Somehow the dialogues and the questions they raised were, for me, an experience that spoke to some deeper levels of my being. When I awoke the next day I told my parents that I no longer wanted to pursue the business program and that I wanted to explore the *deeper meaning of life*. My parents thought that I had gone off the deep end but I insisted that I wanted to be a philosopher and that my goal was to understand the deeper meaning of life that was below the surface. The next Monday, I went to the Dean of Studies Office and told him that I wanted to switch to the Arts and Science program in the spring semester so that I could study philosophy. He sent me to chat with the school counsellor before I made my final decision. Everyone encouraged me to stay where I was since I seemed to be doing well, but I ignored their advice and switched to the arts and sciences in the spring semester. This decision, again in hindsight, changed the course of my life. It was truly a stroke of good fortune that I did not follow the advice given me to stay put; because, it embarked me on an adventure as a learner that has constantly widened and deepened the scope of my life. Quite honestly, it was this event of reading Plato that quickened my imagination and my passion for learning about things in depth. What

would have happened if I had chosen Thackeray? What does this event in my life have to say to new students? As I reflect on this specific event, what I would wish for them is that they will encounter books, professors, peers, and travel that will challenge them to experiences that will move them at the depths of their very existence.

In my shift to the Arts and Science Program I was making a choice to follow a program for what Robert Maynard Hutchins (1959), the then President of the University of Chicago, called a “liberal education.” He was an eminent American educator at the time that I was in St. Peter’s College. He was vehemently critical of American pragmatism and work-oriented university education in the era of the 1950s. He said the following:

I am afraid that we will have to admit that the educational process in America is either a rather pleasant way of passing the time until we are ready to go to work or a way of getting ready for some occupation, or a combination of the two. What is missing is education to be human beings, education to make the most of our human powers, education for our responsibilities as members of a democratic society, education for freedom. (p. v)

My attendance at a small Jesuit liberal arts college was to be just the type of expansive experience that educators like Robert Maynard Hutchins envisioned in a liberal education. That is exactly what my next four years at St. Peter’s accomplished. Although I would major in history and minor in philosophy and psychology, my full curriculum allowed me to take over 18 credit hours in literature, 18 credit hours in the sciences and economics, and an extensive program in theology and philosophy. What the Jesuits expected was that I would have an integrated educational experience when I completed my bachelor’s degree. This was the legacy of this education and I am eternally grateful for the education that I received during these very formative years of my intellectual development. My educational experience was truly “interdisciplinary” and crossing disciplines gave me a spirit of adventure, which has remained with me my whole academic career. My admiration for many of the professors I encountered in this college made me want to follow in their footsteps as a university professor.

Higher Education: A Sense of Recent Ontario History

I have been a Professor at the University of Toronto for over 35 years. I came to the University of Toronto in 1966 when I accepted a position at the Ontario Institute for Studies in Education. This institution was founded in the late 1960s during a period of unprecedented economic expansion. The robustness of the business cycle, at the time, allowed for a windfall of economic expansiveness to be cycled into the educational sector. The endowment of educational programs at the level of graduate training for educators was

the legacy of Ontario's then Progressive-Conservative Government of William Davis. As the educational minister at the time, and eventually the Province's Premier, Davis liked pouring money and resources into the educational sector. These resources allowed for a vision of education that saw this sector as a key force in an expanding economy. With the expansion of the educational sector came a widening of the scope and vision of what educators and educational institutions were expected to accomplish. The late 1960s and early 1970s witnessed the strong ideology of education as "development." The development ethos was tied to educational ideology that put "development" as an end for educational outcomes both at the personal level and at the broader cultural level of global development. We have, in the ideology of development, placed a strong emphasis on the possibilities that education, writ large, could be a catalyst for human personal and cultural development and also as an instrument to enter the global arena of development and underdevelopment. Thus we see an ideology of development in the late 1960s that operates as in the arena of world politics. We see here, for the first time, the naming of a third world considered underdeveloped coming under the educational tutelage of the developed world, or first world.

By the mid-1970s, we witnessed the first indication that the educational institutions fueled and supported by a hot economy were about to come to an end. The period of the mid-1970s marks the first major turndown in the economy and with it a pullback from the educational sector in terms of government support. A common reckoning call was sent out, the educational sector had not delivered the goods for the economy. The downturn in the economy was laid at the door of the educational sector. As in times past, educators are blamed for the failures of the economic sector. What we witnessed during this period is a major turning away from the educational sector at both the federal and provincial levels. The educational sector must now experience a clawing back from its funding base that came with a call to get "back to the basics." The liberalization catalyzed by the famous Hall-Denis Report was now coming to an end.

The call for going back to the basics is the same everywhere when it comes. Educational expansion must be pulled back from the institutions of schooling and a movement back to the so-called "basic skills" is fostered in a changing climate of austerity. Educational institutions would face the beginning of retrenchment policies that signaled the end of funding for educational innovation. Since the end of the 1970s, educational institutions have become victims of conservative educational policies that go under the name of neo-liberalism. We have moved into this new century in the shadow of the neo-liberal turn. The shadow of neo-liberalism sends signals out from governments that they will no longer be the core supporter for the sectors of health, education, and welfare. Within the neo-liberal mandate is a commitment to remove the government from these key sectors opening them up to the vicissitudes of the market. Thus we have witnessed, at the end of

the 20th century and into this new century, a major intrusion of the market in all areas of modern life. Education is now being delivered by governments into the hands of market forces and its directives. With the view that education must move toward exclusive support from market forces, comes the imperative that educational institutions must serve the needs of their master. The vision of education as a tool of the market raises fundamental questions about educational visions in the new century. Here, I would like to flesh out some of the core features of the competing visions which we face at the millennium.

The Market or the Planet: Transformation as a Focal Point of Change

In order to have an education that reaches the core of the life you are living, it is necessary to undergo a transformation in your consciousness that will affect you at the deepest level of your being. I will give you my sense of what this transformation entails (O'Sullivan, 1999). From the perspective of "transformative learning," the fundamental educational task of our times is to make the choice for a sustainable planetary habitat of interdependent life forms over and against the pathos of the global competitive marketplace. This perspective shares a point of view with a rising tide of people and communities all over this globe (Mander & Goldsmith, 1996). This emergent vision of life deeply challenges the economic globalization that is moving like a tornado in our world as we enter the new century.

A full planetary consciousness involving the full extension of our human species involves a dream structure that helps us to understand our awesome gift that comes out of a plenitude that staggers both our minds and hearts. Planetary consciousness opens us up into the awesome vision of a world that energizes our imagination well beyond a marketplace vision.

Contemporary education lacks a comprehensive cosmology. When education has drawn from the sciences, its attention has been directed to the social sciences as distinguished from the natural sciences. In most cases, educational theory and practice have borrowed from the sciences of psychology, sociology, and, to a lesser extent, anthropology. What is totally lacking in modern educational theory is a comprehensive and integrated perspective that has, in the past, been identified as a cosmology. Thus, contemporary educational theory and practice carry with it the same blinders that have plagued modern scientific specialization coming out of the post-Newtonian period. To be sure, modern western educational thought has attempted to identify itself with humanism, but it has done so without providing a renewal of an acceptable cosmology. What we are working toward in transformative vision is an articulation and presentation of a cosmology that can be functionally effective in providing a basis for an educational program that would engender an ecologically sustainable vision of society in the broadest terms, what can be called a planetary vision.

The idea of transformative vision starts with the notion of transformation within a broad cultural context. In the larger cultural context, transformation carries the dynamism of cultural change. We say that when any cultural manifestation is in its florescence, the educational and learning tasks are uncontested and the culture is of one mind about what is ultimately important. There is, during these periods, a kind of optimism and verve that ours is the best of all possible worlds and we should continue what we are doing. It is also usual to have a clear sense of purpose about what education and learning should be. There is also a predominant feeling that we should continue in the same direction that has taken us to this point. Here one can say that a culture is in “full form” and the form of the culture warrants “continuity.” We might say that a context that has this clear sense of purpose or direction is “formatively appropriate.” A culture is “formatively appropriate,” when it attempts to replicate itself within this context, and the educational and learning institutions are in synchrony with the dominant cultural themes.

Even when a culture is “formatively appropriate,” there seems to be a loss of purpose or a loss of the qualities and features, at times, that appeared to have given that particular culture its florescence. Part of the public discourse, during times such as these, is one of “reform criticism.” Reform criticism is a language that calls a culture to task for its loss of purpose. It is a criticism that calls itself back to its original heritage. This is a criticism that accepts the underlying heritage of the culture and seeks to put the culture, as it were, “back on track.” When reform criticism is directed toward educational institutions, we call this “educational reform.”

There is another type of criticism that is radically different from “reform criticism” which calls into question the fundamental mythos of the dominant cultural form, and that indicates that the culture can no longer viably maintain its continuity and vision. This criticism maintains that the culture is no longer “formatively appropriate” and in the application of this criticism there is a questioning of all of the dominant culture’s educational visions of continuity. We refer to this type of criticism as “transformative criticism.” In contrast to “reformative criticism,” this “transformative criticism” suggests a radical restructuring of the dominant culture and a fundamental rupture with the past. I would suggest that “transformative criticism” has three simultaneous moments. The first moment I have already described as the critique of the dominant culture’s “formative appropriateness.” The second is a vision of what an alternative might look like to the dominant form. The third moment is some concrete indications of the practical exigencies of how a culture probably could abandon those aspects of its present forms that are “functionally inappropriate” while, at the same time, pointing to some directions of how it can be part of a process of change that will create a new cultural form that is “functionally appropriate.”

I would say that all of the moments above, in their totality, can be called a “transformative moment.” It is a historical moment of moving

between visions. It is not the case that historical moments and their labeling go uncontested. Many would say that we are not at a transitional moment in our present historical situation as I am maintaining. Truly, we seem to be living in a time of ferment. For example, there is incredible cultural hyperactivity directing us toward the “global competitive market place.” We witnessed this both in Canada and the United States in the 1980s. Now in the 1990s, and beyond, the educational systems in the Northern Hemisphere have been the object of educational reform that is, in essence, a massively conservative endeavour. Aronowitz and Giroux (1993) give us a graphic summation of this moment in their description of education in a U.S. context:

During these years, the meaning and purpose of schooling at all levels of education were refashioned around the principles of the marketplace and the logic of rampant individualism. Ideologically, this meant abstracting schools from the language of democracy and equity while simultaneously organizing educational reform around the discourse of choice, privatization, and individual competition. (p. 1)

I would add that there is a total absence and autism to almost every aspect of environmental sensitivity that constitutes the fundamental underpinning of the recent concerns of the environmental movement. In this most recent version of “conservative reform,” there is no questioning of the “functional appropriateness” of the dominant vision of the global marketplace in virtually any of its aspects. When there is criticism within these quarters, it is a criticism that is completely at home with the dominant cultural form that seeks a further extension of what has been in place since the beginning of the 20th century: the dominance of the market. The educational reform suggested in this venue continues to encourage us to tool up our educational institutions from the nation state market place to the transnational marketplace.

To embark upon a discussion of a transformative vision of education, it must be kept clearly in mind that it will involve a diversity of elements and movements in contemporary education. At this point, I will try to indicate some of the contemporary educational currents that must be part of an emergent vision of transformative-ecozoic education. Since we are in a transitional period, in which there are many contesting viewpoints, the reader should be appraised of some of the elements that are emerging into what I am calling a transformative vision. To some extent these trends are operating somewhat separately and independently of one another. What I would like to do here is to name some of those elements because I think they will form part of a weave of a new type of integral education that will contest the vision of education for the global market place. I would then like to couch these elements within a broad cosmological framework which I believe will provide an alternative to our present conventions in higher education that come out of the so called needs of the market.

What we are now coming to understand is that we are living in a period of the Earth’s history that is incredibly turbulent and in an epoch in which

there are violent processes of change that challenge us at every level imaginable. The pathos of the human today is that humans are totally caught up in this incredible transformation and we have a most significant responsibility for the direction it will take. The terror here is that we have it within our power to make life extinct on this planet. Because of the magnitude of this responsibility for the planet, all our educational ventures must finally be judged within this order of magnitude. This is the challenge for all areas of education. For education, this realization is the bottom line. What do I mean here by bottom line? For me, the bottom line is that every educational endeavour must keep in mind the magnitude of our present moment when setting educational priorities. This demands a kind of attentiveness to our present planetary situation that does not go into slumber or denial. This poses momentous challenges to educators in areas heretofore un-imagined. Education within the context of “transformative vision” keeps concerns for the planet always at the forefront.

The wisdom of all our current educational ventures as we enter the 21st century serves the needs of our present dysfunctional industrial system. Our present educational institutions which are in line with and feeding into industrialism, nationalism, competitive trans nationalism, individualism, and patriarchy must be fundamentally put into question. All of these elements together coalesce into a worldview that exacerbates the crisis that we are now facing. There is no creativity here because there is no viewpoint or consciousness which sees the need for new directions. It is a very strong indictment to say that our conventional educational institutions are defunct and bereft of understanding in responding to our present planetary crisis. In addition, a strong case can be made that our received educational wisdom suffers from what we have been calling the “loss of the cosmological sense.” Somehow this cosmological sense is lost or downgraded in our educational discourse. In truth, something was gained and we are now just coming to understand that something was lost. We are not here talking about shallow changes in fashion. We are talking about a major revolution in our view of the world that came with the paradigm of modernism.

A relevant quote from Susan Griffin (1995) will give the reader an anticipation of the overall pathos of our present historical moment:

The awareness grows that something is terribly wrong with the practices of European culture that have led both to human suffering and environmental disaster. Patterns of destruction which are neither random or accidental have arisen from a consciousness that fragments existence. The problem is philosophical. Not the dry, seemingly irrelevant, obscure or academic subject known by the name of philosophy. But philosophy as a structure of the mind that shapes all our days, all our perceptions. Within this particular culture to which I was born, a European culture transplanted to North America, and which has grown into an oddly ephemeral kind of giant, an electronic behemoth, busily feeding on the world, the prevailing habit of mind for over two thousand years, is to consider

human existence and above all human consciousness and spirit as independent from and above nature, still dominates the public imagination, even now withering the very source of our own sustenance. And although the shape of social systems, or the shape of gender, the fear of homosexuality, the argument for abortion, or what Edward Said calls the hierarchies of race, the prevalence of violence, the idea of technological progress, the problem of failing economies have been understood separately from the ecological issues, they are all part of the same philosophical attitude which presently threatens the survival of life on earth. (p. 29)

What Kind of Education Should You Experience at a University with Comprehensive Integrity

I believe that it is necessary to arrive at university prepared. What I mean by preparation is not academic preparation, which I think is assumed by having been accepted to university. What I am talking about is moral preparation. I believe that it is very important to reflect upon what one values in a university education. When seeking a bachelor's degree at university, I would suggest that the experience should help to train the mind and heart toward a comprehensive integrity. I would venture to call this comprehensive integrity a "cosmological sense." Philosopher Stephen Toulmin (1985), in his book *The Return to Cosmology*, provides a convenient entry point for discussion of the term cosmology. He observes that there appears to be a natural attitude taken by humans at all times and in all places when reflecting on the natural world, and there appears to be a comprehensive ambition to understand and speak about the universe as a whole. Toulmin notes that, in practical terms, this desire for a view of the whole has reflected a need to recognize where we stand in the world in which we have been born, to grasp our place in the scheme of things and to feel at home within it.

It is interesting when one looks at the etymology of words, how certain core concepts interrelate. The etymology of the word ecology "eco" refers to the study of "home." Thus our attempts to situate ourselves as humans in the matrix of the earth and further in the universe is, in essence, an exercise in cosmology. This sense of wholeness is seen in the very breakdown of the word universe (uni-verse) or one story. Historically, the word university meant an institution where one went to experience one's place in the universe (Fox, 1988). This is certainly not the university that I know. In the modern university the term cosmology appears, for the most part, to be arcane or obscure. In contemporary philosophy in the 20th century the study of cosmology is, for all intents and purposes, absent. Nevertheless, the term has been very important in the history of philosophy in the past and will surely be so in the future because of the developments of postmodern science (see Berman, 1981; Griffin, 1988a, 1988b, 1990; Smith, 1992; Toulmin, 1985).

For our purposes, cosmology is considered to be that branch of philosophy which studies the origin and structure of the universe. Within philosophical

discourse, cosmology is to be contrasted with metaphysics, the study of the most general features of reality and the philosophy of nature which investigates the basic laws, processes, and divisions of the objects of nature. To be sure, they are not mutually exclusive categories but rather different focal points.

Our modern world, in which the university functions, has suffered a loss of the cosmological sense and in losing this we have opened up our minds to fragmentary experiences. We are now living in a transitional period as equally profound as the time of Copernicus and one can readily conclude that a radical new cosmological vista is coming into view. It is equally dramatic in its reorientation as was the movement from the medieval to the modern worldview just described. The difficult problem here is to depict such a momentous transition when we are in the midst of it. Our first task is to give the reader a sense of what we mean by the “loss of cosmology.” The famous lines of William Butler Yeats (in Kiely, 1989) from his poem the “Second Coming” anticipated, in the earlier part of the 20th century this sense of loss and its consequences:

Turning and turning in the widening gyre
The Falcon cannot hear the falconer;
Things fall apart; his centre cannot hold;
Mere anarchy is loosed upon the world. (p. 94)

We see in this stanza, that even at the turn of the century, there is a nostalgia for wholeness. So when we talk about the loss of cosmology or the loss of a sense of the cosmos we do not mean that there was a total absence of a cosmological system. The loss of a cosmological sense is for us the subjective sense that there is lacking a sense of the wholeness and interrelatedness of things. When the poet William Blake (in Schorer, 1946) could “see the world in a grain of sand and eternity for an hour” (p. 5), he was pointing to a sense of the wholeness of things which was to erode with the development of the scientific worldview. In Blake we see a poet where the relationship between the microcosmos and the macrocosmos is palpable. By the 19th century we see this relationship broken and fissured. We have already stated that poets are frequently the prophetic voices of the beginning and ends of eras. Even in profoundly religious writers we see this alienation of the individual from the natural world (Bernanos, 1937).

The modern world is located at a great distance from the awe and enchantment that the pre-moderns had with the natural world, as well the enchantment of primordial peoples. We not only see disenchantment and fear in the modern mentality toward nature; also apparent is an open hostility to the natural world. Louise Young (1983) in her beautiful book entitled *The Blue Planet*, indicates that there was a very strong hostility and repugnance of the natural world in much of 19th century thinking in Europe. For instance, she reports that when Casanova traveled through the Alps he drew the blinds in

his coach to spare himself the view of those vile excrescencies of nature, the deformed mountains.

It is important then to understand how the natural world came to be such an alien and hostile place in modern thinking. A better understanding of how this attitude emerged will help us understand how we, as a culture, have assumed such a hostile view of the natural and how this is presently influencing our dealings with our planetary crisis. I will focus on some of the cultural factors that led us into this loss of a cosmological sense. Max Weber (1958), the great 19th century sociologist, characterizes the effects of modernism as a “disenchantment of the world” and a fragmentation of the social world due to “bureaucratic domination.” I would alert you to some of the serious hazards of university education that you should be cautioned against. One is the fragmentation that comes with “specialization.” We must understand that the modern university has embraced the value of specialization and for young scholars who need comprehensive integrity, this is a problem.

Stephen Toulmin (1985) identifies the crucial difference between modern science and its earlier cosmological predecessors. He contends that traditional cosmology was never preoccupied with any isolated aspect of a phenomena. In contrast, we see in the modernist worldview highly specialized and distinct scientific disciplines which have continued to develop well into the 20th century. Knowledge has become bureaucratized with very distinct and clear divisions of labour being the order of the day. Toulmin (1985) notes that from the 17th century onward there would be precious few scholar-scientists who would cross the boundaries of more than one discipline. As a consequence, questions that might have been asked across a whole spectrum of disciplines have “rarely been posed, much less answered” (p. 234).

Nevertheless, disciplined inquiry in modern science had made impressive achievements. Its achievements overshadowed the fragmentation of thought that would come in its wake. By the end of the 19th century, this disciplined fragmentation would cast a shadow where any attempt at a conception of the whole, as experienced in the organic world view of the pre-moderns, was abandoned. The culture’s poets appear always to be the forerunners of a cultural critique. Yeat’s poem (in Kiely, 1989) “Second Coming” crystallizes this: “things fall apart, the centre cannot hold” (p. 94); poetic indication of the loss of the cosmological sense. Toulmin gives us a feel for how this cosmology is lost in the disciplined inquiry of 19th century science by personifying the banishment of the integrative cosmological task. The bureaucratized disciplinarian says to the cosmologist as natural theologian:

You used to run a Department of Coordination and Integration, did you? Well, as you can see, we don’t have any such department: all our enterprises run perfectly well without needing to be coordinated or integrated. And now, if you don’t mind, would you please go away and let us get on with our work?” In short the

disciplinary fragmentation of science during the nineteenth century seemingly made the integrative function of natural theology unnecessary. (p. 235)

By the 19th century, the issue of the integration of knowledge had been side-stepped as a fundamental question. Now that we are coming to the end of the 19th century, the natural sciences have become fragmented into a number of largely independent disciplines, each with its separate and sometimes unique questions, preoccupations, and methods of inquiry. The major outcome of this development is that the task of integration fell to no discipline. We've neglected the interest and capacity to think about "the Whole" (Toulmin, 1985). Max Webers' (1958) famous "iron cage" quote gives us a sense of the pathos of specialization:

No one knows who will live in this cage in the future, or whether at the end of this present development entirely new prophets will arise, or there will be a great rebirth of old ideas and ideals, or if neither, mechanized petrification embellished with a sort of self importance. For the last stage of cultural development, it might well be truly said, specialists without spirit, sensualists without heart; this nullity imagines that it has attained a level of civilization never before achieved. (p. 183)

We have brought the legacy of specialization into this new century and the modern university must be seen critically in that light. Care should be taken not to lose the expansiveness of intelligence on pre-mature specialization. This is not the education one should be seeking. When we speak of education within this larger universe context it must be seen as a pervasive life experience. Formal education programs cannot fulfill all of these requirements. At the same time, formal education must be transformed so that it can provide an integrating context for total life functioning. At the higher levels of formal education, what is needed are processes of reflection on meaning and values, carried out in a critical context. At the present moment it is clear not that the university expresses a universe context. Accuracy would demand that we call our institutions of formal education multiversities rather than universities. Our universities today flounder for want of a larger and more comprehensive context. Having no adequate larger context in which to function, our higher educational institutions operate in a splintered and fractionated view. One of the most common solutions to this vacuum is in the reinstatement of past forms of humanistic studies in a core curriculum, a curriculum which includes philosophy, ethics, history, literature, religious studies, and some general science. At this point in our own cultural history, these attempts at an integral education do not appear to evoke a sense of committed identification and no unifying paradigm appears on the horizon. As a result, effective education does not take place.

In closely examining this moment of crisis that we are living in, Thomas Berry (1988) suggests that we need to return to the story of the universe:

For the first time the peoples of the entire world, insofar as they are educated in a modern context, are being educated within this origin story. It provides the setting in which children everywhere—whether in Africa or China, in the Soviet Union or South America, in North America, Europe, or India—are given their world and their own personal identity in time and space. While the traditional origin and journey stories are also needed in the educational process, none of them can provide the encompassing for education such as is available in this new story, which is the mythic aspect of our modern account of the world. The story tells us how the universe has emerged into being and of the transformation through which it has passed, especially on the planet Earth until the present phase of development was realized in contemporary human intelligence. (p. 133)

The plenitude of this universe story is the basis for all educational endeavours and is the proper context for the entire educational process. At the same time, it is understood that the story must also be understood within the limits of personal and social development, the story can be appreciated within a human developmental context. How the elementary, secondary, and higher education student will appreciate it will depend on the developmental stage of the person. Thus we should not be surprised that the elementary and secondary student will not appreciate the story in a fully reasoned and reflexive manner. At the university level it is understood that the processes of human maturity allow for a penetration at the most profound levels. What is important to note at this point is that our deepest educational endeavors and commitments would be grounded in a story that would have a cultural, historical, and cosmological context of meaning that can be accepted on a broad scale by persons of different ethnic and cultural backgrounds. The universe story is a “grand story” but not a “master-narrative,” in post-modern terms.

I believe that educational vision in the 21st century must be accomplished within a planetary context. We live on a planet and not on a globe. When we look at the universe story that we have just depicted, we encounter an organic totality and not a cartological map. We are one species living on a planet called “The Earth,” and all living and vital energies come out of this organic cosmological context. The globe is a construct of human artifice. Before 1492, cartographical procedures for mapping commerce routes were flat. For Europeans, Columbus moved the mapping systems for commerce from a flat surface to a globe. The globe is a mapping device made for commerce today. The language of globalization is first and foremost for commercial purposes. The major fundamental shift in our time is that the power structures on the globe have moved from national state business (including the military business) to transnational business. All over the world, at this moment, nation states are delivering their governments over to transnational business (see Barnett & Cavanaugh, 1994; Clarke, 1997; Clarke & Barlow, 1997). We cannot therefore dispense with global language, and it is absolutely necessary that it be the subject of deep order cultural criticism at a worldwide level. At the same time we cannot be confined to globalization

visions even as a sole corrective. At the planetary level, we move beyond geosphere into biosphere. Jeremy Rifkin (1991) refers to this as “biospheric politics”:

The transition from a mechanistic to an organismic image of the earth and the accompanying shift in attention from the geosphere to the biosphere fundamentally alters the human perception of time upon which all definitions of human security are based. The linear time frame of geospheric politics will have to be bent into the cyclical loop of the biospheric processes. The notion of an ever-accelerating rate of production and consumption rushing into an open-ended cornucopian future has led us to the present environmental and economic crisis. In the name of progress, we have mortgaged our planet’s future and made our children’s world far less secure. Reorienting the time frame of human culture to make it compatible with the circadian, lunar, and circannual cycles of the biosphere will mean rethinking the most essential features of our temporal values. (p. 264-265)

The university should be a place where the universe story is encountered and engaged. With that in mind, we might ask how can the universe story give us a sense of temporal direction that Rifkin (1991) suggests is necessary? The universe story can help to guide and direct the educational vision. It provides the basis of a functional cosmology for a planetary vision. The story evokes creative energy. In this context the learner needs, above all, an attraction that entrances and moves them. The basic purpose of the story is to enable us to interact more creatively with the emergent processes of the universe as experienced on the earth in this new century. This story potentially provides not only the understanding and the sense of direction that we need, it also evokes an energy needed to create this new situation. It needs to be repeated constantly that we are not now dealing with another historical change or cultural modification, such as those we have been experienced in the past. The changes we are dealing with are changes on a geological and biological order of magnitude. Educational vision must be also at this order of magnitude.

What does this suggest to educational needs now? What is needed for a planetary perspective on education? At all levels of education, and including the university, this constitutes a profound reorientation of our thinking that is symptomatic of a “paradigm shift.” Ornstein and Ehrlich (1989) suggest that we need a radical shift in our normal way of perceiving ourselves and our environment. They suggest that we have to look at ourselves in the long view and understand an evolutionary history of millions of years, rather than the fleeting history that is currently taught. Thomas Berry (1988), when addressing education at a post-secondary level, suggests that something akin to the story of the universe would be the proper context of the entire educational process. He suggests a sequence of courses.

The first course would present the sequence of evolutionary process phases that the universe story encompasses. Thus we would see, in its expanse, the formation of the galactic systems, the formation of the earth within the solar

system, the emergence of life in all its variety upon the earth, and the rise of consciousness and human cultural development. The second course would address human cultural developments that would introduce the learner to envisage a comprehensive human development in its historical stages as well as its cultural differentiation. The learner would be encouraged to see the continuity of their own personal development in the prior development of the universe, of the earth, and of all human history. As relates to a planetary consciousness, Berry (1988) maintains that this process of learning encourages the connection of personal identity in historical time and cultural space. A third course might deal with the differentiated historical aspects of the great classical cultures that have dominated human development over the past several thousand years. Although these cultures have been widely differentiated in the cultural patterns that cover the planet, they have accomplished throughout the Euroasian, American, and African worlds certain definitive achievements.

In the different parts of the world, a special emphasis could be given a knowledge of the spiritual traditions to which they are heirs. A fourth course suggested by Berry (1988) is the study of the scientific-technological phase of development. What is specifically under observation during this recent phase of history is the dominance of the human over the natural culminating in a decline in the sense of the numinous aspects of the natural world in favour of a dominant preoccupation with human reason, human power, and the mechanistic view of the universe. Correspondingly, it is a period of study which witnesses a profound social consciousness where our globe is affected by political, social, economic, and religious adjustments that have shaken the planet with unique severity. Finally, Berry proposes that the curriculum look closely at the emerging ecology in what he labels the emerging “ecozoic period.” Here Berry is asking us to return, in a new way, to a planetary consciousness that challenges the globalization vision that we have been critiquing throughout this work. Berry ventures that study should be directed toward re-establishing the human within its natural context. Within this curriculum there must be an abiding concern for the integral functioning of the biosphere, the healing of the damage already done to the dynamics of the earth, and the fostering of a renewable economic order by integration of the human within the ever-renewing cycles of the natural world, as they are sustained by solar energy. Finally, a sixth course would address the origin and identification of values. This course would seek to discover within our experience of the universe just what can be the foundation for values. Such a foundation for values would supply in our times a human and planetary context for the creative venture that we are facing. Berry feels that the educational process itself would have through this overall program a cultural, historical, and cosmological context of meaning that can be accepted on a broad scale by persons of different ethnic backgrounds.

You will note that these suggestions do not put at the forefront the use of the Internet and the wonders of the so called “new information age.” My own value for these technologies is that they are tools to the wider purpose

of education that I have outlined above. For me, the byte-sphere must be subordinated to the biosphere. In other words, my place for the new information age is in subordination to the biospheric concerns that I have accented in this piece. The shift to a universe perspective would be an essential turn in university values as they now stand.

We will soon hear of the necessity of being globally ready for this or that market edge. I counsel resisting the allure of these voices that serve the market as master. The wisdom of all our current educational ventures serves the needs of our present dysfunctional industrial system. Our present educational institutions which are in line with and feeding into industrialism, nationalism, competitive transnationalism, individualism, and patriarchy must be fundamentally put into question. All of these elements together coalesce into a worldview that exacerbates the crisis we are now facing. There is no creativity because there is no viewpoint or consciousness which sees the need of new directions. It is a very strong indictment to say that our conventional educational institutions are defunct and bereft of understanding in responding to our present planetary crisis. In addition, a strong case can be made that our received educational wisdom suffers from what I identify as the “loss of the cosmological sense.” Somehow this cosmological sense is lost or downgraded in our educational discourse. In truth, something was gained and we are now just coming to understand that something was lost. We are not here talking about shallow changes in fashion. We are talking about a major revolution in our view of the world that came with the paradigm of modernism.

Celebration: An Epilogue

In the longer view, it is my hope that the university can re-invent itself again in the larger context of meaning that I have already suggested to you. If this happens, the university will have recovered its vision of what it should be in the 21st century. In my visionary mode, the various schools and departments will spontaneously reshape themselves within a world of wonder and gorgeous celebration of existence such as has not been known since the universities of western civilization first came into to being: celebration that finds its expression in the colourful robes and the magisterial music of our annual commencement processions.

We live in an incredible time in earth history and we must capture the sense of our purpose through celebrating the fullness of our existence in both time and space. For creatures of the millennium, we must remind ourselves that we are about a great work. It is a joy to be part of this grandeur. (O’Sullivan, 1999, p. 281)

Notes

- ¹ Originally written for the incoming class of students at the University of Toronto for the year 2000.

Notes on Contributor

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