

Abstract

Globalization presents a particularly challenging context for re-examining the educative purpose of higher education for human, community and social development. In the very first place, development itself is rarely explicitly claimed as a deliberate focus of most institutions of higher education. Given that the fundamental purpose of higher education is intellectual and moral development, this is not only a very strange stance but also one that is increasingly problematic and indeed ethically indefensible. In the face of the complexities of this late modern age, where ‘bads’ as well as ‘goods’ are circulating the globe with ever-increasing frequency and causing ever-more destructive impacts on nature and society alike, it is becoming glaringly obvious that new ways of ‘seeing’ the world and ‘dealing’ with issues in it are urgently needed if sustainable futures for societies are to be achieved across the globe.

If, as the substantive argument in this chapter holds, we humans have become victims of our own paradigmatic inadequacies in a manner that now threatens the very sustainability of life on earth, then higher education is duty-bound to do all it can to transform prevailing epistemic assumptions and to liberate human and social development in the further pursuit of the considered and inclusively responsible life.

INTRODUCTION

There is a strange and inexplicable reluctance by institutions of higher education across the entire globe to overtly promote the fact that they are, first and foremost, agencies of human and social development. The word *development* for instance, rarely appears in the mission statements of universities or technical colleges, nor is it even included within the list of roles or purposes or functions that the academy at large explicitly does claim for itself. Moreover, the roles that are promoted by academic institutions, including the classical trinity of teaching, research and outreach or service, are just that: roles. They are means not ends; processes that lack reference to any nominated purposes or aims or, importantly, contexts. Yet when they

are explored in any detail, teaching, research and outreach are all means that are related to such vital human and social developmental ends as the bringing forth of latent capabilities, the advancement of knowledge, and indeed to ‘betterment’ in a wide variety of social, cultural and material contexts. The educative purpose of higher education is perforce contextual, although, yet again, the academy seems to show little overt appreciation of that by the manner of its essentially uncritical commitment to what it continues to regard as the tried and true practices of education.

Significantly, the meaning of *educere*, one of the two Latin roots of education, also means unfolding and bringing forth, and thus education and development are essentially synonyms. Yet academics are notoriously uncomfortable with the idea of being agents of development and change. At their best, of course, even though they might not appreciate the fact, they are clearly facilitators of improvements in the human condition through the intellectual, moral, aesthetic and even spiritual development that they nurture in those with whom they critically engage – students and all other ‘stakeholders’ alike. Simply put, higher education fundamentally ought to be explicitly about such epistemic development. It should be conducted in such a way that all aspects of human knowing are integrated into cognitive systems that, in their own inherent systemic complexity, are most appropriate for dealing with the complex issues that characterize the late modern times in which we live: for there is strong evidence to suggest that these cognitive systems – the ‘knowledge structures and the processes through which information is organized and made usable’ – can, under appropriate circumstances, develop ‘from a state of simple, absolute certainty into a complex, evaluative system’ (West, 2004).

EDUCATIVE PURPOSE AND DEVELOPMENT

The purpose of higher education, to borrow from Socrates, should be the development of

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competencies for knowing how to live the ‘considered life’ within the context of the times: to promote living a life ‘which is well informed, has worthwhile goals and is lived discerningly so that one can respond to others well, and live flourishingly for oneself’ Grayling (2004, p. 36). As I shall take pains to emphasize below, this ‘discerning response to others’ must be inclusive of all of the living world and not just our fellow human beings. This more global, holistic perspective on the educative purpose is the central contextual challenge of today if we humans and all the other communities of nature with which we are inexorably interconnected, and oft-times embedded, are to enjoy a sustainable tomorrow together.

There is a moral imperative here that also demands our intellectual and aesthetic attention, for as Leopold (1949, p. 224) has submitted, ‘[a] thing is right when it tends to conserve the integrity, stability and beauty of biotic communities. It is wrong when it tends otherwise’: and ‘tending otherwise’ is certainly an all-too-frequent trajectory in this globalizing era. Higher education should be preparing humanity to deal with contemporary issues that, in their complexity, represent clear threats to sustainable ways of being. Their complexity lies not just with the fact that they comprise many different components that interact, often on a truly global scale, but also because they require collective human judgments for actions that must embrace moral, aesthetic and even spiritual dimensions in equal part to their intellectual aspects. To commit to such an educative purpose is no easy matter, as people all across the globe struggle to deal with the complexity and vagaries of a ‘risk society’ that, in part at least, has been induced by the very manner in which we continue to treat the world about us (Beck, 1992). Under our current circumstances, as Dietz et al. (2003) submit: ‘[d]evising ways to sustain the earth’s ability to support diverse life, including a reasonable quality of life for humans, involves making tough decisions under uncertainty, complexity, and substantial biophysical constraints as well as conflicting human values and interests’.

The core of the argument to be presented here is that whatever higher education institutions have done in the past – whatever roles they have adopted, functions they have served, purposes they have pursued, worldviews they have assumed, and paradigms they have generated, expressed and nurtured – needs to be critically reappraised for its adequacy in light of the challenges arising from the complex circumstances in which we humans currently find ourselves, wherever we are in the world. This is especially challenging in light of the realization that local actions can have global consequences that could render them unsustainable in the future thereby making them irresponsible and morally indefensible acts in the

present. Meanwhile, the ever-increasing tendency for the flow of goods and services, capital and labour, technologies and institutions, and indeed ideas themselves across the entire globe, while indisputably beneficial in many regards, also presents threats and risks to the sustainability of both human and entire biotic communities through their consequences – intended or otherwise. Each of these global flows can be regarded as constituents of the phenomenon that is being termed ‘globalization’, even though that term is most often associated only with the idea of a market-led, integrated world economy achieved through free trade across the world, and that has technological innovation and policy reform as the two essential ‘drivers’ of its continuing development (Wolf, 2004).

In this current age of the ‘globalizing civilization’ that has come to characterize late modernity – or as Delanty (2001) prefers, organized modernity where the technological and technocratic experts ‘rule’ – it is an irresponsible perversity for higher education institutions to fail to appreciate the vital importance of a focus on contextual human and social development, and to not accept it as their primary educative purpose. Modern universities, with their particular emphasis on the generation and transmission of technical knowledge, have, after all, been a primary source of the emergence of organized modernity. Ironically, they are now increasingly a victim of it while, somewhat paradoxically, they are also becoming increasingly aware of this situation and conscious of its implications with regard to their traditional responsibilities and role as prime developers of paradigms of development that are appropriate to the contexts of the times. There are even signs that some at least within academia are beginning to respond to a call for the reappraisal of the purpose, functions and practices of institutions of higher education that are responsive to the contextual needs of contemporary society through their critical engagement in dialogue and discourse with the citizenry in their dealings with the problematic issues of the day (Fear et al., 2006).

In reassuming those dialogic responsibilities with respect to human and social development, institutions of higher education will have to pay specific and critical attention to their own development – in intellectual, moral, material and even spiritual terms. Any shift by universities to what might be termed a ‘development focus’ (Bawden, Busch and Gagni, 1991) must therefore be achieved from a critical stance towards the nature, the momentum and the increasingly obvious inadequacies of the march of modernity, and to the logic and relevance of the intellectual and moral foundations of the development paradigm that supports it. Accordingly, the ‘late modern condition’ is an expression of a crisis of paradigms as much as anything – of an inadequacy of the prevailing way that we

have come to view, value and treat the world about us, and to understand the implications of our actions in it.

MODERNITY AND THE MODERNIZATION PROJECT

The fundamental theme of modernity, all along, has been the promotion and active promulgation of the ideology of development as material improvement. Higher education in its broadest sense has played a very important role in guiding the ‘unfolding’ of an improved future in this context, as it has become the present. Indeed it could be argued that over the past half millennium or so, universities have been the most important and certainly the most sustainable institutions of all in defining the essential technocentric characteristics of the modern age as it has developed from the early (liberal modernity, as Delanty (2001) has it) to the present late stage (organized modernity). The whole essence of modernity and of the modernization project has been ‘developmental progress’ through the application of rational thought for decision-making in a deliberate and inexorable movement away from the mysticism and feudalism of medieval times. The promise became ‘control over nature through science, material abundance through superior technology, and effective government through rational social organization’ (Norgaard, 1994, p. 1), and central to this promise has been the development of particular ways of thinking, of modes of rationality and, indeed, of the very manner of thought itself. Now, however, these are proving grossly inadequate to the challenge of living the considered life within the emerging context.

The crux of the argument here is that progressive acts of development in the social and material worlds are functions of the intellectual and moral development of the actors who need (or ought) to be involved in those acts – either because they themselves are able to effect developmental change or because they are potentially affected by any changes that might be engineered by others. It follows then that the central educative purpose of institutions of higher education ought to be the explicit facilitation of epistemic development: of progressive, reflexive, critical, transformative learning that leads to much improved understanding of the need for, and expression of, responsible paradigms for living and for ‘being’ and for ‘becoming’, both as individuals alone and collectively as communities.

As responsible citizens of one world, we have in large part failed to live up to this critical ideal, and indeed have quintessentially rejected its implications. The extent and pervasiveness of social inequities and injustices, as well as overt conflicts and cultural abuses that continue to be

pervasive across the entire globe, bear testament to just that. Furthermore, the quest for material abundance, which has come to characterize the aim and trajectory of modernity, has come at the price of significant resource depletions, environmental degradations, social injustices, inequities and conflicts. Such a material approach to development now poses threats to the very sustainability of life on earth itself, on a scale that we have never before confronted in the history of human interactions with the rest of nature. Although the globalization of trade in goods and services has become the most recent hallmark and inevitable dimension of the modernization project, it has been accompanied by the increasingly global spread of highly infectious diseases (often of animal origin), polluting chemicals and potentially hazardous radiations, criminal activities and stateless terrorism, the latter often motivated by religious fanatics who essentially ‘yearn for martyrdom’ in the face of their self-perceived isolation from their own societies as they turn increasingly to embrace modernity (Sageman, 2004).

Such is the nature, scope and risk potential of these destructive consequences of modernization that they are seen by some as representing nothing less than ‘irreversible threats to the life of plants, animals and human beings’ (Beck, 1992, p. 13). Under these circumstances it is impossible to disagree with Beck’s claim that many of the problematic issues that we currently face in the world ‘result from techno-economic development itself’. Thus while modernization has come to mean progress and development, the paradox is that it has proved to have an inherently destructive as well as creative side with the production and transmission of what have been referred to as ‘bads’ emerging as unintended consequences of the production and transmission of ‘goods’ (Beck, 1992). As Beck contends, while modernization has certainly resulted in significant control of nature to ends that suit human needs and wants, it has also resulted in a host of associated risks and hazards to both biophysical and socio-cultural environments. And all of this is indeed happening on a truly global scale where the ‘transformation of the unseen side effects of industrial production into global trouble spots is therefore not at all a problem of the world surrounding us – not the so-called “environmental problem” – but a far reaching institutional crisis of industrial society itself’ (Beck, 1996, p. 32).

There are vital echoes here of Einstein’s famous dictum that ‘the world we have made, as a result of the level of thinking we have done so far, creates problems that we cannot solve at the same level of thinking at which we created them’ (quoted in MacHale, 2002). The profound cognitive challenge that this represents deserves far more attention than it currently seems to attract.

Witness the impact that the carbon emissions from the burning of the hydrocarbon fuels that provide the essential energy for industrialization are unquestionably having on the climate across the entire globe. A global issue like this demands attention on a truly global scale in a manner that reflects a similarly global commitment to ‘different levels of thinking’. At the very moment of writing (September 2007), not one but two international meetings are being held in the USA to address the issue of climate change (one convened by the United Nations for national leaders to find a suitable replacement for the Kyoto Protocol and to commit their governments to it, and one convened by the President of the USA for leaders of the 25 ‘big emitters’ to explore an agenda for reducing emissions). However, there is no apparent reference whatsoever, in either of these meetings, to the epistemic changes that are essential for dealing with the systemic complexity of the matter at hand. There are not even any signs that the need for epistemic transformation is appreciated, let alone being addressed. And of course this epistemic deficiency is greatly amplified when other confluent aspects of ‘development’ are factored in, including the accelerating demands for energy made by rapidly industrializing nations such as China, India and Brazil that are occurring at a time when oil production is seemingly already at its peak (Mick Winter, 2007).

At the heart of this immanent crisis, and as a central feature of the problematic aspect of the entire emergent phenomenon that is globalization, is the matter of the way things are known in the name of science, valued in the name of economics, done in the manner of technology, and assured in the name of public policy and mechanisms of governance. Particularly evident from the prevailing perspective on late modern development is the exclusion of both the normative and the emotive from formal educational paradigms and pedagogies. Just as the citizens of civil society have been overwhelmed by the technical knowledge of the experts, so too have they abdicated their responsibilities for moral reasoning to institutions such as the church, the state, science, or the market (Busch, 2000). The result is the loss of competencies in moral and aesthetic judgment and a consequential impoverishment of what have been called our appreciative systems (Vickers, 1983). It is these systems that determine the way that we each ‘see’ (reality judgment) and ‘value’ (value judgment) various situations in the world about us, which, in turn, condition the manner by which we make ‘instrumental judgments’ (what is to be done) and take executive actions: in sum, how we each contribute to the social world (Jackson, 2000), or more specifically, to the communities to which we belong.

THE NATURE AND SIGNIFICANCE OF DEVELOPMENT PARADIGMS

The distinction between societies and communities is of great significance to the arguments being presented here for the transformation of the educative purpose of higher education and of the institutions that provide it. The contemporary emphasis on the ‘it’ of societies rather than the ‘thou’ or ‘you’ of communities illustrates very clearly the central thrust of the modernist agenda, while also providing a focal point for its reform. The distinction is of course far from new, with Ferdinand Tönnies in the late 1880s distinguishing between a *Gemeinschaft* (community) characterized by mutual relations of trust and caring that is supposedly eclipsed by a focus on a much less personally interactive *Gesellschaft* (society) as a function of the onrush of modern urban civilization that he claimed for those times (Mendes-Flohr, 1989).

As civilization has continued to ‘rush on’, this emphasis on the ‘it’ of society has become ever more pronounced and along with it, a loss of emphasis on the ‘thou’ of community. The citizenry, the individuals and communities of the lay public, have been increasingly objectified as consumers and as members of abstract social sectors that can be regulated and governed, rather than trustingly embraced and discursively engaged. Higher education has closely reflected these changes, as the age of organized modernity – with its emphasis on science, technology and liberal economics – has continued its march from its emergence in the early part of the 20th century. Far from the ideal encouraged by von Humboldt and other German idealists – that is, of the beginning, in the 19th century, of the university as an active and autonomous agent in the cultural transformation of the nation-state (Readings, 1996) – institutions of higher education have progressively lost their autonomy, as well as their character as institutions nurturing *Gemeinschaft*. In contrast to retaining their autonomy from other state (social) institutions, they have instead been virtually colonized by other institutions of the state resulting in the creation of what Etzkowitz and Leydesdorff (1997) refer to as ‘a triple helix’ of interdependence that involves ‘the three great monoliths of industry, governance, and the academy’. These are co-evolving, it is argued, in such a manner that each has come to uncritically serve the needs of the other, while also increasingly assuming organizational, structural, cultural and dispositional characteristics in common with each other (Kerr, 1982). Most significantly, they have also come to both share and mutually defend a paradigm for development in spite of the fact that it is proving to be increasingly inadequate to the task of dealing with the complexity, contingency, contestabil-

ity and confluency that is characteristic of the contemporary *problématique*.

As Guba and Lincoln (1994) have emphasized, paradigms are differentiated through three different sets of assumptions: beliefs about the nature of nature (ontologies), beliefs about the nature of knowledge about that nature (epistemologies), and beliefs about the nature of human nature particularly with respect to the nature and role of values (axiologies). Paradigms therefore also differ in the practical expressions of these beliefs (methodologies). The prevailing paradigm of development in late modernity is well exemplified in the endeavours of so-called 'international development' based as it is on theories of 'modernization', 'industrialization', and 'dependency' (Escobar, 2000). Norgaard (1994) nominates five particular epistemological and meta-physical beliefs – atomism, mechanism, universalism, objectivism and monism – that he believes have become so central to the way we have come to see the world, and thus so embedded in our public discourse, that they exclude other beliefs which, he argues, 'are more appropriate for understanding the complexities of environmental systems and which are more supportive of cultural pluralism' (Norgaard, 1994, p. 62). The dominant paradigm of modernization, to which the higher education sector has lent strong paradigmatic support, has become an expression of an instrumental logic of 'productionism' with unashamed epistemological foundations in 'technical rationality' and 'mechanistic reductionism'.

The methodologies for development that continue to dominate emphasize technical infrastructure enhancement and enhanced social control that is achieved through 'institutional bureaucratization' and regulatory governance. Higher education continues to play a seminal role here both in the further development of this approach and in its promulgation as the essential source of 'training' for scientific and technical 'expert counterparts'.

The fundamental parameters of the modernist mantra for international development are material growth and efficiency of production with an unapologetic emphasis on 'perpetual economic growth in industrialized countries and convergence toward the rich country model in poorer countries' (Raskin, 2000). The key drivers, as stated earlier in the context of the globalization of trade, are technological innovation and policy 'reformation' (Wolf, 2004). Far from embracing the notion of the considered life including respect for the integrity, stability and beauty of nature, the methods and practices of the modernist paradigm present a worldview of the benefits of exploitation and manipulation of a nature that is construed as a 'pool' or source of natural resources.

With all its conceptual and practical limitations, it is

difficult to both understand and accept the centrality of economic institutions and what Harmon (1984) referred to as 'the paramountcy of economic rationality' in the orthodox development paradigm. Yet in spite of the obvious inadequacies of the 'econo-centricity' of development orthodoxy in practice, in spite of the epistemic limitations that neo-liberalism presents to the development paradigms, and in spite of the view espoused by some that 'it has led to, and contributed to, the great global problems of our day', the basic assumptions of the modernist paradigm have, for the most part, seemed 'right headed and inescapable and generally uncritically accepted' (Harmon, 1984, p. 16).

Again it must be emphasized that the academy has played a central role in uncritically promoting – and indeed emulating – these principles. As Yankelovich (1991, p. 8) has put it, the 'pervasive march' of the 'culture of technical control' and its empiricist/instrumentalist epistemological foundations achieved 'through the application of expert thinking in science, technology, economic enterprises, government, the policy sciences, and large organizational structures' has all occurred with the willing acquiescence, and indeed scholarly support, of the academy. Little thought has been given, he argues, 'to strategies for preserving the benefits of the Culture of Technical Control while at the same time curbing its excesses' (Yankelovich, 1991, p. 9).

No longer a source of critique and sceptical reflexivity of cultural and societal change, institutions of higher education have all too commonly been captured by, and now merely aid and abet, the prevailing modernist corporate paradigm of instrumentalism and materialism, to the extent that they themselves have become archetypes of it. They have even uncritically accepted the language and metaphors of the modernist discourse for their own organizational principles and structures with its roots in the Taylorist logic of the arrangement of people in mechanical relationships 'so as "to fit" the strategies and needs of business, to "take instructions", to "implement orders" and to act unthinkingly, robot-like in pursuit of "rational" objectives set top-down by others' (Franklin, Hodgkinson and Stewart, 1998).

Readings (1996) has even suggested that, in this age of globalization, universities have essentially *become* transnational global corporations, while opining that 'it is no longer clear what the role of universities is within a society, nor what the exact nature of that society is'. And this is particularly so as national societies and cultures themselves are increasingly unsure of their own identities, character, and responsibilities in the face of the seismic 'forces' of globalization.

The lack of criticality has also allowed the instrumen-

tal-rationalist pattern of thinking to dominate education itself to the virtual exclusion of all other forms of knowing and understanding. This has led, in turn, to the elevation of university scientists/teachers to positions of social dominance by virtue of their status as experts, reflecting what Gadamer (1975) has referred to as ‘the idolatry of the scientific method and of the anonymous authority of the sciences’. And a very unfortunate consequence of this ‘peculiar falsehood of modern consciousness’ (Gadamer, 1975) has been the emergence of a climate of cognitive authoritarianism where ‘rationality of thinking for oneself diminishes as society’s knowledge gathering activities expand to the point of requiring a division of cognitive labour into autonomous expertises’ (Fuller, 1988).

Such has been the cultural retreat from criticality that the relationship between universities, as the source of ‘expert knowledge’, and the general citizenry has become increasingly adversarial rather than mutually supportive, with the result that there is a continuing decline in the quality of public participation in their own affairs accompanied by the erosion of self-governance (Yankelovich, 1991). This inertia threatens the very foundations of democracy, grounded as they are in participation and collective judgment, and employing as they do a plurality of ways of knowing and valuing and coming to judgment (Yankelovich, 1991). At the same time, the rhetoric of development emphasizes the honourable goal of ‘spreading democracy’ across the globe – even if it takes military force and foreign occupation to achieve just that.

None of this could be happening at a worse time in history, given the immensely complex challenges associated with the dynamics of globalization, with all that that implies in relation to inter- or transnational governance, to cultural and societal transformations, and to the responsible treatment of the environment; all on a truly global scale.

Was there ever a more critical moment to heed the call for universities to become much more engaged ‘in the resolution of the most pressing social, civic, economic and moral problems’ of the day (Boyer, 1996)?

THE WINDS OF CHANGE

Most fortunately (and fortuitously), there is increasing evidence, as intimated earlier, that there are those within the academy who are indeed heeding that call (Fear et al., 2006). This growing appreciation is coinciding with an ever-growing recognition within societies and bureaucracies alike that current approaches to material and social development are indeed not only failing to fulfil their promises but are contributing to the *problématique*. The

coincidence of social awareness of the need for changes in the prevailing approach along with critiques both within the academy and beyond it that question the very rationality and governance of development (Escobar, 2000) – as well as the very aims and purposes of modernization itself (Beck, 1992) – is spawning significant changes of thinking and of practice alike.

Norgaard, as one who is prominent among these critics, calls for a fundamental reconstruction of the character of development such that it embraces a paradigm of co-evolution ‘of social and environmental systems’ and a ‘co-evolutionary cosmology that stresses the communal nature of knowing’ (Norgaard, 1994, p. 99). While criticizing the pre-eminent role that has been given to atomistic science and technology in the development process, his argument is not for their rejection, but for their reorientation into a process that ‘admits, helps us see, lends legitimacy to and identifies the advantages of a diversity of ways of knowing, valuing, organizing and doing things’. Uphoff (1992, p. 289) adopts a similar line in arguing for a reorientation of mechanistic scientific thinking in development, observing that ‘if we cannot eliminate straightaway all material and mental obstacles to human fulfilment, we can begin by revising our scientific and day-to-day thinking along the lines that various disciplines are charting’. Not all of our present thinking and ways of doing things need to be abandoned, but we ought to ‘dethrone those methodologies that restrict positive-sum outcomes in the name of rigor, by equating the closed systems we create analytically through our minds with the multiple open and overlapping systems that exist all around us’.

Innovative intellectual constructs and theories are emerging that provide novel paradigmatic perspectives on the development process (for example Sen, 1999), and on the moral dimensions of development (for example Crocker, 1991). These initiatives are finding expression through emerging paradigms that are ‘people centered’ (Korten and Klaus, 1984), ‘rights-based’ (Pettit and Wheeler, 2005), and ‘participatory’ (Crocker, 2003) and which are, in turn, all embraced by the powerful worldview of ‘development as freedom’ that Sen (1999) promotes. The case for a perspective of development as freedom, and for the associated formulations as *rights*, rests on the three propositions that (a) they have intrinsic importance, (b) they have a consequential role in providing political incentives for economic security, and (c) they play an important role in the genesis of values and priorities (Sen, 1999, p. 246). These assertions further highlight the significance of the moral dimensions of the emerging paradigmatic shift, while also emphasizing the concomitant need for the development of moral con-

sciousness and ethical competencies as key factors, along with intellectual development, in the transformative development of 'development for transformation'!

Cognitive psychology provides some very important insights here in terms of guiding response frameworks from the academy to these epistemic challenges, and at base is the need to address the very processes of knowing and understanding. As Bernstein (1983, p. 113) observes: 'if we are to understand what it is to be human beings, we must seek to understand understanding itself, in its rich, full, and complex dimensions'.

A number of very significant theories have been developed regarding intellectual and moral development, both in childhood (Kohlberg, 1963; Piaget, 1969; Hoffman, 1970) and beyond (Perry, 1968; Gibbs, 2003). While the schema presented by the different works differ in their details (West, 2004), their central theses about epistemological, ontological and axiological development through childhood, adolescence, early adulthood and indeed throughout life, are in strong overall agreement. It would seem that such epistemic developments have elements that are, on the one hand invariant and universal, while on the other they rely in part 'upon the self's particular and somewhat unique experience' (Kohlberg and Ryncarz, 1990). In either case, epistemic changes of significant proportions can be achieved essentially through a combination of both cognitive challenge (Salner, 1986) and changed existential circumstances (Gibbs, 2003).

Kitchener (1983) describes a three-level model of cognitive processing that provides a very important conceptual framework for the redesign of the academy's educative functions in response to the challenges that late modernity presents. She argues that cognitive developments can occur in cognition (dealing with the matter to hand), in meta-cognition (dealing with how we deal with the matter to hand), and in epistemic cognition (dealing with the limits of knowledge and epistemological assumptions). From this perspective, shifts in paradigms actually represent 'epistemic developments' that are expressed as 'more advanced' states of intellectual and moral understandings as they are reflected in action. Most importantly, complex cognitive frameworks and processes appropriate to the task of dealing with complex issues in the world can be developed by individuals and communities alike in which intellectual and moral 'ways of knowing' are integrated into critically appreciative learning systems (Bawden, 2000).

So even as it responds tentatively to the imperative to turn its attention to human and social development as its educative purpose, it is vital that the academy embraces the need to critically explore the nature of development itself. Such critical reflexivity must focus on both the

nature and the challenges of intellectual, moral and spiritual development, as well as on the characteristics of the expression of these in terms of appropriate paradigms for, and responsible developments of, the material, social and cultural worlds. And all this must be set within the context of a critical review of the age of organized modernity that is increasingly characterized by the globalizing tendency that clearly demands intellectual, moral and spiritual refinement, if not outright systemic transformation.

SUMMARY AND CONCLUSIONS

The context of globalization that increasingly characterizes this age of late, organized modernity, presents significant challenges to the educative purposes and functions of institutions of higher education, wherever they are located in the world. It particularly demands a critical appreciation of complexity from a number of different aspects. These include the inherently grand scale of global phenomena as well as the intricacies of a multitude of interacting elements including people across that scale. It also includes the interactive components of the cognitive systems of those who need to be collectively involved in public judgments about what needs to be done in the name of 'considered and sustainable collective lives', which embraces an ethos of care for other communities – human and the rest of the biota of nature alike. Complex too are the conceptual foundations of sustainability and the everyday practicalities of its expression as sustainable development in the face of features like contestability, contingency and contextuality, which are all far removed from the certainties and objectivities of the technocentric paradigm of development that continues to prevail.

As Redclift (1987) has pointed out, the problem with achieving sustainable development, even if adequate intellectual foundations could be established, is related to the overriding structures of the international economic development system, 'which arose out of the exploitation of environmental resources' in the first place, and which frequently operate 'as constraints on the achievement of long-term sustainable practices'. Sustainable development, he concludes, presents a perspective that recognizes 'that the limits of sustainability have structural as well as natural origins.' While sustainability and sustainable development remain contestable constructs (Davison, 2001), they are central aspects of emerging approaches to what we might now refer to as 'post-industrial' paradigms of development which demand, above all else, the development of human cognitive systems for individuals and communities alike.

Essentially, to paraphrase Milbraith (1989), our instit-

utions of higher learning need to commit themselves to helping the citizenry at large to ‘learning our way out’ of the modernist dilemma by critically engaging in the transformative and participatory processes of what he referred to as ‘social learning’ – people learning with, from, and through others as they engage together as learning communities, seeking inclusive improvements to the circumstances in which they collectively find themselves or anticipate finding themselves in the future as it continues to unfold.

While such learning will need to focus on all three levels of cognitive processing, special emphasis must be placed on the epistemic dimensions of cognition that contribute so much to the character of our paradigms. If indeed, as has been argued throughout this piece, we have become victims of our own paradigmatic inadequacies in a manner that now threatens the very sustainability of life on earth, then higher education is duty-bound to do all it can to transform prevailing epistemic assumptions and to liberate human and social development in its further pursuit of the considered life.

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