

SOUTH AFRICAN UNIVERSITIES OF TECHNOLOGY, GLOBALISATION AND CULTURE: A CORRELATION

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Abstract

The Humanities, Social Sciences and the creative arts are somewhat marginalised within the broader conceptualisation of the South African Universities of Technology and this could lead to a paucity of engagement with the critical challenges facing them. Globalisation, for example, is taken as desirable and neutral and that culture and context are relatively unimportant to their ongoing development. The challenges of globalisation and culture are explored as a critique on the fundamental conceptualisation of the institution-type and as a way of arguing for a more critical role for the Humanities, Social Sciences and the Creative Arts.

Keywords: University of Technology, globalisation, culture, creativity, knowledge.

I call the age we are entering the creative age because the key factor propelling us forward is the rise of creativity as the prime mover of our economy. Not just technology or information, but human creativity. (Richard Florida, 2005: 26)

1. INTRODUCTION

The normalisation of the South African geopolitical context after the demise of apartheid regime restored the country's place on the international stage. The borders that were imposed in terms of the cultural and academic boycotts fell away and, almost overnight, the country was able to access the world in a way that was hardly imaginable in the 1980's. I would argue that South African Universities of Technology are products of this sudden emancipation and their architects found themselves in a veritable candy store of international possibilities and opportunities.

There was an unbridled sense of haste to align Technikons with international models and, to illustrate this haste, the Committee of Technikon Principals (CTP) published their foundational text Universities of Technology in South Africa – Position, Role and Function (du Pré: 2004), a year after the change of name was gazetted. Holiday asserts that the Minister makes 'no clear distinction between universities of technology and traditional universities' (in Reddy, 2006: 25). Jansen is blunt in his assessment of the low base that Technikons are supposed to lift themselves up from. He says (in Reddy, 2006: 25) that Technikons are 'nothing more than glorified high schools.

Under the merger plans they are to be called institutes of technology or Universities of Technology. This is a farce'. Kraak argues that South African Universities of Technology 'arose from political lobbying with minimal policy documentation evolved to explain the new category and its institutional functions' (Kraak, 2006:145). To compound matters Reddy says, that as 'far as it is known the Minister has not furnished any set of cogent or rational reasons for his decision. Many of the former Technikons strongly support the Minister's decision and had campaigned for this designation many years before' (Reddy, 2006: 24).

The CTP 2004 publication is the seminal text and it is widely regarded as the blueprint for the establishment of Universities of Technology in South Africa and its editor, Du Pré, is widely accepted as one of the prime architects. A prominent feature of this text is its reliance on international models and there is little or no evidence to support the view that the process of the conceptualisation of this institution-type was open to wider institutional consultation. It was essentially a top-down process which was, and probably still is, bewildering for the staff and students at the former Technikons because, literally overnight, they became University of Technology lecturers and students without any idea of what this meant.

One of the most disturbing features of the CTP publication is the lack of importance paid to the role that the Humanities, Social Sciences and the Creative Arts. In fact, it takes the view that at 'universities of technology..., Science, Engineering and Management should have top priority' (Du Pré, 2004: 26). Du Pré repeats this in a statement of 2006. He contends that not all disciplines should be offered because of the 'nature of the different fields of study'. (Du Pré, 2006: 6) This argument is at odds with Imenda's view that Universities of Technology exist to 'explore new problems of technology through the sciences, the arts, and the humanities' (Imenda, 2005: 1405) and Winberg takes the view that the 'emphasis which such institutions place on career-focussed education in science and engineering is not an exclusive one: it is inclusive – treating the arts, humanities and social sciences as important aspects of a technologically-centred education' (Winberg, 2004: 43).

The fact that there are widely differing views of what the institution ought to look like and what would render it academically healthy, desirable and necessary if Universities of Technology are going to develop into mature academic institutions where critical debate and deep reflection are accepted as vital to the process of conceptualisation. Ironically, perhaps, this is a role particularly well-suited to the Humanities, Social Sciences and the Creative Arts. If they have a role to play in the fundamental conceptualisation and on-going conceptualisation of the institutional-type within which they find their academic home then they must reconceptualise themselves by being more critical of the kind of thinking that seeks to narrow their scope of operation and to diminish their institutional value.

A major aspect of this challenge is to contest the foundational conceptualisation by revisiting the understanding of certain crucial concepts, such as technology, globalisation, culture, industry, knowledge and economy; that may have been left unexplored or explored in a cursory manner by the CTP that presents these concepts as unproblematic or benign. By foregrounding the unstated or understated malignancy embedded in these concepts the Humanities, Social Sciences and the Creative Arts could establish themselves as key contributors to the unfolding process of conceptualising this new institution-type.

2. A CRITICAL SPACE FOR THE HUMANITIES, SOCIAL SCIENCES AND THE CREATIVE ARTS

South African Universities of Technology are being fashioned along the lines of international models. Du Pré cites institutions in Europe, Australia, the United States of America and the Middle East as possible models and, importantly, he accepts that while they 'retain a particular focus, each institutional type has developed in its own unique environment and in response to local and international demands' (2004:18). In the same vein, South African Universities of Technology must be given the space to develop their own character and focus, and, temper this development with a greater degree of criticism. Holiday, for example, criticises Universities of Technology for thinking that they are cast from the same mould as Massachusetts Institute of Technology with their 'string of Nobel Prizes, a flourishing School of Humanities, a visual arts centre and a symphony orchestra' (in Reddy, 2006: 25).

This is not an argument against the establishment of Universities of Technology in South Africa but an argument for a much deeper and more critical approach to their conceptualisation. Clearly, the establishment of Universities of Technology in South Africa is not unproblematic. The architects present a picture that places the institutional-type at the heart of economic, industrial and technological development and as a key vehicle to make the country internationally competitive. To argue against this ambition can be seen as arguing against the best interests of the country. But there are several gaps and silences in the original conceptualisation that may militate against the more intellectually organic development of the institution-type.

Du Pré illustrated his 2004 views on the institutional separation between traditional Universities and Universities of Technology in by using as an example the difference between a PhD and a D.Tech. 'As an example', he says, 'the PhD candidate from a university will be engaged in advancing mankind's knowledge by thinking about some of the unsolved challenges relating to, for example, space travel – in other words, philosophising until one hits on a new and uncharted piece of knowledge that needs resolution. So, the PhD will investigate the mathematics of how to send a spacecraft to another star, but the PhD does not actually know how to make the spacecraft.'

This is where the Doctor of Technology candidate at a university of technology comes into the picture (the one who will apply the findings of the PhD candidate and design, build and get the spaceship to its destination)' (Du Pré, 2004: 38; Du Pré, 2010: 12).

If we are to accept this separation as credible then we have to conclude that philosophy has no place in a University of Technology. Yet, in the 2006 paper, Du Pré contends that, '[s]tudents of a university of technology must be aware of the ethical and environmental implications of their choices' (Du Pré, 2006: 15). Is the argument then that the student at a University of Technology is supposed to know enough about philosophy to make an ethical judgement? Are the students thus prepared?

How are students supposed to 'reflect on the broader issues relating to technology', 'be exposed to a wide range of disciplines, including the human and social sciences, to provide them with a richer understanding of the world within they operate' or 'discuss and debate technology policy' (Du Pré, 2004, 52/3) without philosophising or having some understanding of philosophy?

The Humanities, Social Sciences and Creative Arts are not only crucial to this process of developing character and focus but also to enrich the ongoing conceptualisation of the institutional-type by their inherently critical disposition. Perhaps the scope can be widened by a critical reassessment of some of the concepts and challenges that were hurriedly glossed over in the initial conceptualisation or which were uncritically accepted and promoted as neutral, unproblematic and beyond critical assessment as alluded to earlier. Unchallenged concepts litter many pages of literature on the subject of South African Universities of Technology. Concepts such as technology, university, knowledge economy, ethics, globalisation and culture are used as if they are unproblematic or, if they are problematic, the critical engagement with them lies outside the scope of what is expected at a University of Technology. Asking simple questions regarding the contemporary face of technology, questioning what we mean by knowledge, how desirable globalisation is or how we deal with cultures in conflict might take the discussion about Universities of Technology away from structural concerns and into deeper epistemological, ontological, ethical and aesthetic concerns. But these questions are neither exhaustive nor ends in themselves. They are meant to improve the critical on-going conceptualisation of the institutional-type.

Debates and reflection about globalisation and culture are within the purview of the Humanities and the Creative Arts and, in fact, any discipline that is predicated upon stringent self-reflection and self-criticism of its on-going efforts to remain relevant and contemporary. Apart from creative arts, however, none of these disciplines reside within a University of Technology and, apart from some aspects covered in the creative arts and related curricula, there is no Philosophy, Sociology, Psychology or Social Anthropology within the broader curriculum of Universities of Technology.

So, while the critical tools necessary for reflection may exist in the academics that migrate from traditional universities, they won't necessarily be a part of the education of a student at a University of Technology. This sits at odds with the CTP view that the 'demands made by globalisation on higher education institutions is (sic) that they should go beyond providing learners with necessary cognitive skills and competencies, but more importantly, prepare them for working in a knowledge society' (Du Pré, 2004: 44). But knowledge, economy and even globalisation are cultural constructs in a broader sense that include education as a social construct that together with other social constructs 'cannot be disconnected from the culture within which they are produced' and 'cannot be understood in isolation from the processes of immense cultural (regional, historical and temporal) change' (Waghid, 2005: 1313).

3. THE OTHER SIDE OF GLOBALISATION

Establishing a critical distance means that, in order to produce the graduate that would be able to operate effectively in the knowledge society, Universities of Technology would have to re-conceptualise themselves and that lecturers would have to be re-centred and reoriented. The concern that 'many South African university teachers seem uncritically to teach themes related to globalisation, standards, assessment, outcomes and achievement' would have to be addressed. (Waghid, 2005, 19: 1309) It also has to do with deepening the tools of analysis and criticism. Bearing in mind, then, that higher education is also subject to the process of globalisation, would the CTP approach of identifying models in other countries count as globalisation? If this is so, then has the CTP placed them at the centre of the discourse? There are obvious benefits to this, not the least being that they now set the tone for the discourse. Perhaps the differentiation should be between critical and uncritical globalisation. In this way it is possible to say that international models could (not must) be used as benchmarks, but that there is the critical distance that allows us to see where their use becomes meaningless and where their use contradicts and subverts local values, stymies innovation and creativity in South African institutions and also effectively neutralises any sense of historical exploitation.

Critical globalisation should foreground the point of view of the marginalised and muted. Such a view would see The World Bank's definition not only in terms of the global circulation of 'goods, services and capital' but also in terms of 'information, ideas and people' (Perrons, 2004:1). Similarly, as Schirato and Webb explain, that: '[d]espite the obvious difficulties of understanding what is meant by "globalization", we can identify a number of positions that seek to explain and describe it. The many definitions in the literature range from the purely economic (interest rates, exchange rates, mobility of finance) and the rate of human movement (refugees, migrants, mobile professionals) to the effect of power (collapse of nation states, technological surveillance, "action at a distance")' (Schirato and Webb, 2003:7) and they go on to say that 'the

world-systems theory does not provide a satisfactory explanation of globalization, because it effectively subsumes all social, cultural and political spheres and activities under, and explains them in terms of, the economic relations' (Schirato and Webb, 2003:31). Dasgupta takes the view that '[g]lobalization, as a concept, is used to describe the process by which the world is transformed into a single arena....Globalization is not merely an economic phenomenon, rather it covers all aspects of modern life: the economic, the cultural, the political, the humanitarian, the social, and the ecological' (Dasgupta, 2004: 15).

Critical globalisation is grounded in arguments about post-colonialism and post-structuralism. As Miyoshi argues, the 'term globalization is as abused as postcoloniality. If globalization means that the world is a seamless unity in which everyone equally participates in the economy, obviously globalization has not taken place. We do not live in an integrated economy, nor are we likely to in the foreseeable future. Similarly, if globalization means merely that the parts of the world are interconnected, then there is nothing new about this so-called globalization: it began centuries ago, as Columbus sailed across the Atlantic, if not earlier' (Miyoshi, 1998: 248). Globalisation also comes with its own attendant racism because, if Dawson is correct, even in the global hub '[g]lobalization makes inequality worse, exacerbating the deprivation of African-Americans, Latinos, and other less privileged Americans who have been in difficult circumstances all along' (Dawson, 1999, 373).

Closer to home, Muzvidziwa argues that 'globalization has had negative consequences on Africa, as it tends to undermine and ignore the positive contributions African heritage can make to human progress', and that, 'the forces of globalization have tended to impose western values, tastes and cultural influences on Africa' (Muzvidziwa, 2004:76). and Adjibolosoo cautions that '[t]he people of the poor nation states must out of necessity be mindful that when they continue to focus solely on the production of goods and services based on what someone else wants and dictates to them to produce and sell in the global marketplace, they could perpetuate long-term global imbalances in gain sharing' (Adjibolosoo, 2004:37).

Miyoshi points out that 'international trade is regional rather than global. By this they mean that the intra-OECD trade (Organization for Economic Cooperation and Development: the E.U., U.S., and Japan) amounts to 80% of world trade. This, too, is correct, except no one disputes that wealth is inequitably distributed, and so in dollar figures, the North-South trade is obviously much smaller than the North-North trade. But this does not prove much. Globalization never meant global equality' (Miyoshi, 1998, 249).

Perhaps the conceptualisation of South African Universities of Technology is still rooted in a modernist worldview and, as I have argued elsewhere, this may prevent more theoretically-relevant bases, such as postmodernism, from entering the process of conceptualisation (Thathiah, 2007: 179-189).

Fundamental to the modernist worldview is the notion of progress and the 'idea of progress captured humanity as it passed into modernity' (Mott, 2004: 81). Petrella argues that '[t]echnological progress is very often mentioned in explaining and justifying the destruction of the economic and social fabric of entire regions' and 'adapting them to the changes in the global economic scene' (Petrella, 2002, 124-5). The basic assumption of modernisation theory is that 'as each non-Western nation eventually became modernized it would move up the hierarchy and duplicate and absorb American culture, to the extent that ultimately every locality would display the cultural ideals, images and material artefacts of the American way of life.' (Featherstone, 1995: 87) This may be the perfect vehicle for neo-colonialism and a way of creating a demand for, in terms of what Petrella says, American goods and services and is at odds with the imperative to 'decolonise the mind and the body' (Wright, 2001, 58).

Perhaps the emphasis 'has shifted from oversight of the classroom instruction of youngsters to corporate management of extensive assets and an incessant search for financial resources' (Sommer 1995, 129) and perhaps we are too concerned with institutional responses and managerialism and missing the signs that are abundantly clear in youth culture. Maira points out that 'youth culture seems to be the primary site onto which the dualities used to structure the popular discourse of globalization are projected' (Maira, 2004, 203).

'Postmodern culture is saturated by media. This is most visible in the way television (in an effort to fill the space opened up by the growth in satellite and cable channels) recycles its own accumulated past, and that of cinema, and broadcasts these alongside what is new in both media' (Storey, 2003: 72) McLuhan argues that '[p]erhaps we could sum up our problem by saying that technological man must betake himself to the visual metaphor in contriving a new unified language for the multiverse of cultures of the entire globe. All language or expression is metaphorical because metaphor is the seeing of one situation through another' (Moos, 1997: 138).

Perhaps we should be speaking of different globalisations. Is modern globalisation different, at least theoretically, from postmodern globalisation? Is modern technology different from postmodern technology? Consider that the '[w]ays of thinking about technology have undergone changes in line with the shift from modernist to postmodernist thinking' and we can have modern and postmodern computer technology, which are referred to as 'transparent' and 'opaque' technology respectively (Meecham and Sheldon, 2000: 130).

It is imperative that notions of globalisation, technology, knowledge society and Universities of Technology are not removed from the tension between the cultural transformations in the South African context and the hegemonic impulses that are embedded in the neo-colonial and homogenising culture of the dominant economies.

If there is no place in the conceptualisation of South African Universities of Technology for the critical enquiry that is the hallmark of cultural programmes and the humanities, then how are their students going to engage with the critical demands of a knowledge society? And how, as Horsthemke asks, are we reinventing ourselves for a significant role in the era of globalisation and preparing the young South Africans for the tough world of global competition? (Horsthemke, 2006: 455).

4. CULTURES IN CONFLICT

While culture and the creative industries might not seem to hold an obvious interest for Universities of Technology in themselves, their economic importance is accepted globally. The creative industry sectors 'are growing at twice the rate of the US economy and generating work at three times the rate. In the UK, the creative industries have grown by 34 per cent in the last decade. The Department of Culture, Media and Sport has estimated that these industries generate more than £57 billion per year in revenues and currently employ more than 1.7 million people, over 5% of the total employed workforce' (Seltzer and Bentley 1999: 14). Ironically and despite the investment, UK is fifteenth out of the 45 countries on the Global Creativity Index (Florida, 2005: 156).

South African Universities of Technology have a deeper responsibility simply because they, like the country itself, are going through a process of invention and conceptualisation. The challenge of identity, both at an institutional and a contextual level, is central to this process. Albie Sachs's 1989 *Preparing Ourselves for Freedom*, which he prepared for an in-house ANC seminar abroad, had the effect of stimulating an 'unprecedented level of discussion about South Africa's cultural imperatives' when it was published by the *Weekly Mail* in February 1990. (de Kok and Press, 1990: 9) Sachs writes that we 'all know where South Africa is, but we do not yet know what it is' (de Kok and Press, 1990: 19) and he states further that '[a] constitutional duty will be imposed upon the state, local authorities and public and private institutions to take active steps to remove the massive inequalities created by centuries of colonial and racist domination. This gives concrete meaning to the statement that the doors of learning and culture shall be opened' (de Kok and Press, 1990: 29). Jamal reflects on Sachs's leading question which is: 'how can one move forward when one does not know who one is?' (Jamal, 2005: 4) Stated differently, how can we participate in the knowledge economy when we have no knowledge of who we are?

Perhaps it is not possible to get absolute agreement as to the answer to the question but that does not mean that answers are not available or that they are unimportant to the process of conceptualisation. For example, community service and community engagement is one of the key dimensions of South African higher education and it is an imperative that cuts across both the teaching and research dimensions.

It is the dimension that grounds the institution in its real context. Such an engagement speaks directly to the questions of identity and critical globalisation because 'the values of community are vulnerable. They are marginalized in times of upheaval and crisis which creates a climate of rootlessness and this slowly undermines and erodes social conventions' and '[t]here is a lack of regard for community, because the dominance of the market means that self-interest takes over the entire world of value, by making its end of self-seeking the only end.' (Sauer-Thompson and Smith, 1996, 105) This potential for exploitation and marginalisation poses real challenges. Apart from reinforcing the notion that these people are not as technologically advanced therefore less equal, this approach also neglects to enhance the value of more localised and culturally-appropriate solutions to the problems. It is not only cultural difference that is being eroded but '[g]lobalization is eroding and qualifying the sovereignty of the nation state in terms of its governance', and 'it appears that nation states are likely to become less self-determining or autonomous'¹ (Sauer-Thompson and Smith, 1996: 123).

In losing the critical distance we become easily seduced by foreign cultural value systems, enslaved by their commodities, including the cultural commodities (of which their system of education undoubtedly is an example) that they flood the market with and become separated from the value inherent in local cultural manifestations. This is the way of Western conceptual imperialism, where their local culture is generalised 'to the level of global relevance' (Eade, 1997: 35). But '[g]lobal knowledge is normative, subjective, and experiential – procedures, processes, skills, routines, patterns of action. It includes art, belief, insight, intuition, models, visions, other forms described only as genius, and also care, love, trust, ideals, and many other thoughts and feelings that people have and know. Global knowledge accepts that people can know without knowing that they know and expands the human capacity for direct knowledge with people's intuition, insight, and inspiration without direct, observation or rational thought' (Mott, 2004: 26).

In this view it is easier to accept that globalisation 'also supplies new resources for new forms of culture' (Storey, 2003: 119) and offers 'the possibility of cultural mixing on a scale never before known. This can of course produce resistance to difference, but it can also produce the fusing of different cultures and the making of new and exciting forms of cultural hybridity' (Storey, 2003: 117). Cowan argues that '[d]ifferent cultures have more common components than before, and individuals around the world are selecting from a commonly diverse menu of choice....Cross-cultural trade does not eliminate difference altogether, but, rather, it liberates difference from the constraints of place' (Cowan, 2002: 129).

¹Also see Boyce, B.P. 1999. Nation-Building Discourse in a Democracy. In Palmberg, M. ed. National Identity and Democracy in Africa. Cape Town: HSRC and Mayibuye Centre of the University of the Western Cape

But a sense of place can be liberating as well as constraining. In consequence it is not surprising, thus, that questions are being asked about higher education in South Africa and the extent to which it should be internationalised. Steynberg asks whether the 'South African educational sector is able to compete in the global economy which regarded knowledge as a commercialised commodity and secondly whether South Africa considers higher education as a commercialized product?' (Steynberg et al. 2005: 1271). Statistics can be compelling, over 'half of the PhDs in engineering, mathematics, and economics awarded by American universities in 1997 went to non-US citizens' (Marquardt, 1999: 2) Similarly, as Steynberg illustrates, the percentage of international students in OECD countries range from less than 2% in Italy and up to 17% in Switzerland. (Steynberg et al. 2005: 1269) But what does this actually mean? Does it mean that those who choose to study in these OECD countries are attracted exclusively by the quality of the education or by a whole host of other attendant factors, like economic mobility and culture? But even the lustre of Europe and the U.S.A. has been heavily affected by the post 9/11 tensions and these tensions tend to highlight cultural difference to the extent that, as Bekemans argues, '[i]n the present globalising but fragmented world, Europe will need to re-assess and strengthen its contribution to genuine intercultural dialogue, while respecting cultural diversity but preserving its fundamental values' (Bekemans, 2002: 205).

This bears some significance to the South African context because of its apartheid history. Higher Education was undoubtedly a construct of the apartheid ideology and at its core was the belief in white supremacy and the protection of white cultural identity by not allowing any synthesis with other cultures and affecting the worldviews of students from different racial backgrounds (Reddy, 2004).

The position paper on the cultural and academic boycott adopted by the national executive committee of the ANC in May 1989 in Lusaka states that in the 'process of struggle, the people of South Africa have evolved a democratic culture of liberation, which expresses their social and political aspirations. This culture, though distinctly South African, is infused with an internationalist, humanist spirit that draws the best of the cultural heritage of all the population groups of our country and that of the rest of humanity. It encompasses the artistic, intellectual and material aspects of culture'.²

If Universities of Technology are concerned about the production of cultural wealth, which is a significant contributor to national economies internationally, then they have to address the impediments that may still be inherent in the South African context and which are highlighted by the position paper on the cultural and academic boycott. Notable amongst these are the 'established pattern of White privilege maintained at the expense of Black disadvantage' where 'all the major means of cultural production and reproduction are owned and controlled by a tiny elite, drawn exclusively from the White community.

²Available at <http://www.anc.org.za/ancdocs/pr/1989/pr0500.html>

This includes the printing presses, publishing houses, film, video and sound studios, art galleries, sports facilities and other outlets of cultural expression' and where '[b]lack artists in particular have as a result been victims of the most extreme forms of cultural exploitation and degradation, including the vulgarisation and debasement of authentic indigenous art and cultural forms'.

In the light of this what role can South African Universities of Technology play? The White Paper on Arts and Culture Heritage³ presents many options. Firstly, 'embodied within this interaction [between cultures] is the role of technology: access to technology; its transfer; artistic expression through technology', secondly, the transformation of all arts and culture institutions and structures, and thirdly, developing the potential employment and wealth-creation opportunities of the cultural industries. 'The heritage sector thus has a powerful but highly challenging role as interpreter and protector of the nation's cultural capital' (Deacon, Mngqolo and Prosalendis, 2003: 8).

The Creative South Africa Report that was presented to the Department of Arts, Culture, Science and Technology in 1998 highlights the fact that the cultural industry tends to be 'knowledge intensive, involving highly skilled workers', is 'labour intensive, creating more than the average number of jobs' (DACST 1998: 4), is seen as a major driver of the new economy (DACST 1998:10) and that worldwide is considered 'the fifth largest economic sector in terms of turnover after financial services, information technology, pharmaceuticals and bioengineering and tourism' (DACST 1998, 12). Moreover, this report also points out that the cultural industries 'provide an avenue for creating a South African identity that is essential for nation-building and political transformation' (DACST 1998:12/3)

5. CONCLUSION

With this approach the Humanities, Social Sciences and the creative arts have a more relevant role to play not just in how Universities of Technology are conceptualised but also how the relations between the disciplines are negotiated. There is really no need for these disciplines to be subservient to engineering, management or the sciences. If anything, they can play a crucial role in humanising the institution and, in an ever-increasing multidisciplinary approach to education, not to establish a critical role would be tantamount to ensuring that these disciplines would be eased out of the institution-type with little resistance and with no credible defence or argument for their continued existence other than in being subservient to the hard sciences and managers.

The hegemonic impulses of globalisation and the developing of the nation's cultural capital must be included in any discussion about the future development of Universities of Technology. As Mozaffari argues, there is a pervasive sense that the hegemonic impulses of the Western world are not bound by any sense of value other than its own ideological and economic position (Mozaffari: 2002).

³Available at http://dac.gov.za/legislation_policies/white_papers

Universities of Technology cannot escape their responsibility to provide the country with critical, reflective and grounded graduates who would not be enslaved and enchanted by the knowledge society but who would be empowered enough to make a significant contribution. One of the main challenges is to recognise and celebrate the value and richness of local cultural knowledge and this simply demands that cultural programmes and debates about culture must be an intrinsic part of their education.

This is in line with the UNESCO Declaration on Higher Education in the 21st Century in terms of higher education aiming to create a 'new society – non-violent and non-exploitative – consisting of highly cultivated, motivated and integrated individuals, inspired by love for humanity and guided by wisdom'. (Kolawole, 2005: 1436/7) 'Using knowledge creatively is central to realising economic and social value, and to developing individual potential to thrive. It is as important to overcoming exclusion as it is to competitiveness in the high-value, high-reward sectors of the economy. However, creativity is also vital to meeting the social, political and cultural challenges of the next century'. (Seltzer and Bentley, 1999: 17).

The conceptualising of South African Universities of Technology is really a balancing act but Rose and Melchett warn, '[i]t is perhaps the hubris of the educational systems of industrialised society that leads us to imagine we are capable of effectively analysing and "dealing with" such interlinked scientific, technical and political problems. It is time to recognize, instead, that many of these issues are simply too difficult to be resolved within the sort of time-scales generated by commercial and public projects designed to meet human needs. The probability that we will get it right is very low indeed. The probability that we will create long-term problems that can only be detected a long way down the line, is rather high' (Rose and Melchett, 2003: 58).

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