Keynote Address

Science versus Indigenous Knowledge: A Conceptual Accident

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This paper was inspired by someone whom I have chosen to call Professor Chapman's engineer. This engineer appears in a quote from Professor Chapman, Dean of Human Sciences at the University of KwaZulu-Natal at the beginning of the program layout of the Ingede Conference[1]. When Prof Chapman's engineer is asked for a difference between African engineering and Western engineering he answers politely, with some impatience to the question, that there is only one kind of engineering. This situation in which we are challenged to produce work that is sensitive to the context that we are working in, while we are universal in techniques or approach used, often creates a split in our consciences. This is a result of an insinuation that in being context specific there are silos of comprehension into which scientific work has to be translated in order to make sense to the local. On the other hand, the fact that we can communicate, is testimony that we continue to understand each other's values, while at the same time we feel stifled by them when imposed on us.

This paper attempts to deal with the ambivalence of our consciences regarding context specificity (in this case African Scholarship) and universal knowledge that is often known to emanate from science. Since science is often associated with the West, the starting point in this paper is: What is Western

[1] Ingede: African Scholarship Conference held on the 23rd to the 25th March 2004 at the University of KwaZulu-Natal, Musical Recital Hall, Westville Campus

*Alter*nation Special Edition 2 (2005) 438 - 444
ISSN 1023-1757

about science? The aim is to unpack our constant reference to knowledge as universal, on the one hand, and our reference to science as Western, on the other hand. The working hypothesis, of course is that the West has its own indigenous knowledge and that when we conflate the West with science, we are committing perpetual alienation of the rest of the world from science, thus defeating our own argument about the universality of knowledge. There is a strong argument to be made for a historical association of Western knowledge with science in recognition of what the West has done for the structured quest of scientific knowledge, but an absolute association that is often made between Western knowledge and science should be challenged. Of course this is a result of a conscious attempt by some writers to associate Western scholars with science. For example Robin Horton's essay published in 1967 and republished in 1993 cast an opposition between 'Western Scientific Knowledge versus African Traditional Thought', even in its title. There was also exaggerated 'othering' of the rest of world cultures cast in terms of their cosmology of existence

The second issue that this presentation would like to forcefully challenge is the association of science with absolute objectivity. Here the argument proposed in this paper is simply that there are two types of rationality (the power to reason): The cause-and-effect reasoning, upon which most of natural sciences are based; and consciousness reasoning, or what I would like to call the persona-centred reasoning, from which various social values are articulated and which constitutes the difference between our successful application of positivism and what escapes it. It is often the conflation of these two forms of rationality that results in the conflation of indigeneity and science, and the wrong association of Western indigeneity and science.

The association between cause-and-effect and persona-centred reasoning is responsible for camouflaging power issues that are associated with knowledge generation. These forms of reasoning do not carry the same level of objectivity. Fukuyama (1992), for example, in his sincere belief in the absolute objectivity of science best illustrates the danger of the conflation of persona-centred reasoning with cause-and-effect objectivity. He outlines how humans are destined for the same 'objective' fate the principles of which, he claims, could be discerned from natural science. His argument, of course, is the inevitability of capitalism. The telling title of his book is *The End of*

> Modern natural science is a useful starting point because it is the only important social activity that by common consensus is both cumulative and directional, even if its ultimate impact on human happiness is ambiguous (Fukuyama 1992: xiv).
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> ... modern natural science establishes a uniform horizon of economic production possibilities. Technology makes possible the limitless accumulation of wealth, and thus the satisfaction of an ever-expanding set of human desires. This process guarantees an increasing homogenization of all human societies, regardless of their historical origins or cultural inheritances. All countries undergoing economic modernization must increasingly resemble one another: they must unify nationally on the basis of a centralized state, urbanize, replace traditional forms of social organization like tribe, sect and family with economically rational ones based on function and efficiency, and provide for universal education of their citizens. Such societies have become increasingly linked with one another through global markets and the spread of universal consumer culture. Moreover, the logic of modern natural science would seem to dictate a universal evolution in the direction of capitalism (Fukuyama 1992: xiv-xv).

In reading such universalized convictions, the feeling of suffocation by an imposition of other people's values can be real. One cannot help but be struck by the assumptions and the matter-of-fact manner that informs this passage. While, for example, technology and education are such desirable acquisitions for all societies, it is striking how these are portrayed here as having the potency of steering social evolution towards one destiny – economic (post)modernism. It is also inferable that the social organizational units 'based on function and efficiency' that must replace 'family', 'sect', etc. will prioritize the individual as the main agency of social operation. 'Global markets' and 'universal consumer culture' are the highlighted ingredients in the homogenization of humanity. The unilineal, albeit western-centred direction of human progression, and the objectivity of the process are taken for granted. This will all be the result of the triumph of scientific principles, even

in social life, over the irrational, less calculated forms of 'communitying'. How much of all this is inevitable and scientific, and how much of it are simply the values of Western indigenous knowledge, is not even posed for pondering. Fukuyama wants to argue that all of it is scientific and it is a nonnegotiable journey and destiny of humankind.

There is an urgent need for us to unpack what we mean by science, what we mean by that it is objective, and what its associations are with our value schemes or choices of action – so that it is clear what is inevitable and what is guided by our values. The fact that we regard a system of knowledge as both universal and Western should give us clues to the unavoidable entanglement of knowledge in our value schemes. If we were to liberate social science, especially from its association with the West, we would simultaneously be liberating indigenous knowledge from entrapment in uniqueness, mysticism, and stagnation into which it is locked in the minds of most people. This is more urgent to deal with in the social sciences as the issue of the relationship between rationality and value creates tension between the analyst and the subjects. Let me tease out this relationship briefly.

Rationality is our main tool to analyze and decipher knowledge; it is a power 'to reason' 'to disaggregate and reconstitute' according to 'certain principles' of association and dissociation. To reason is an act of attributing value or judgment in a particular act. To reason can therefore not stand alone: it is completed by the values that make a judgment on why action is or should be taken. If rationality is a distinctively human attribute, then judgment or morality that comes with reason is a distinctively human obligation. To highlight this let us ask the question: Is abstract human action possible? There are two contexts that I know of in which abstract human action is observed: in certain forms of madness and infant movement or gestures. In both these situations action is said not to be rational. There may be debates about whether abstract human action is possible, but there is no debate about that it is undesirable.

It seems that judgment, value, or to be categoric about it, morality is a requirement of rationality which is a characteristic of being human. This merger between the power to reason and morality is called *ubuntu*. *Ubuntu* is recognition of the fact that reason and morality cannot exist without one another. Thus when people act in a manner that is cruel or harmful to others their actions are often described as lacking *ubuntu* or as informed by *ubulwane*

(animalhood). In other words, they relegate themselves from deserving to be seen as humans. Once an act fails to meet the fair judgment of an average human, it brings into doubt the human status of an actor. Thus in *ubuntu* is contained the limits of objectivity and the limits of subjectivity. In other words, one may not act irrationally and one may not act in a manner that only suits oneself as values are communally negotiated. This, I propose, goes to the heart of our problematique. Since rationality is detachable from objectivity (i.e. since pure objectivity would preclude value), science is an ideal that we can only approach from various points of indigeneity of our perspectives. There is no pure science; especially there is not pure social science.

In an attempt to pull out concretely the suggestions tabled in this paper let me dispel a couple of fallacies. Firstly, although many people often talk about 'Western science', most often assume science to be Western. Both these are fallacies, but more especially the latter. While the institutionalization of the pursuit of knowledge is Western in origin, science must be regarded as the potential of the human mind to strive for universal principles in a certain field. Thus to talk of Western engineering and African engineering is to talk of *converging* forms of scholarship – the degree of the scientific convergence from both of these is determined in the identification and consensus on universal qualities in both of them. This is not a proposition of a political compromise with regard to issues of intellectual property, nor is it a relativist projection of knowledge in the way of a postmodernist tradition. It is a deconstruction of intellectual inequality that was historically constituted in a way that emphasizes a common human capacity towards intellectual streamlining in the context of varied socio-cultural expertise.

Secondly, the objectivity of science is often exaggerated. When it comes to objectivity there is a continuum, the extreme edges of which are quite dangerous to reach. For me science is the universality of operative principles that we often aspire to reach but can never reach absolutely and completely. Perhaps the lack of objectivity that is often levied hurriedly towards the religious realms of cultures must be reconsidered. Ntuli (2002) argues that:

> To separate one's self from the phenomenal world is to objectify that world. This is what an African worldview rejects. It perceives human beings and the phenomenal world as extensions of each other. And it

> is through this that a harmonious balance between humans and nature is maintained (Ntuli 2002: 56).

Thus, I think we have to realize that the continuum stretches from cause-and-effect rationality, to persona-centred rationality, to an engagement with spirits for those gifted that way. One can only graduate in this continuum; the fallacy often committed is that one at the extreme end does not understand the one at the other end. This creates false silos of comprehension.

Thirdly, science versus Indigenous knowledge is a false opposition – all knowledge has indigenous origins and can only strive for objectivity and universal application. Science constitutes agreed upon variables and units. This works well for empirical investigations, although it is subjected to the power to decide and choice of variables. In the case of social science the variables and values become too intertwined and the units become a means to dictate value. Hence rights are often seen to be targeted to individuals; and families and communities must align themselves accordingly – such that communality of land, for example, in rural areas is such a contentious issue.

In Africa, there is little in the name of policy or official practice that emanates from the collective nature of social relations that is often observed in this continent. For example, while the Bills of Human Rights that African governments have created and adopted are good ethical documents, one wonders why the Bills of Human Responsibility have not been adopted in line with the obligations of *ubuntu*. To challenge the opposition of science and indigenous knowledge will interrogate the tendency of posing indigenous knowledge in opposition to change. In our opposition of science and indigenous knowledge we are responsible for creating authoritative spheres of stagnation. Traditional institutions must be challenged for stagnation. For example why should critiquing the appropriateness of *ilobolo* be cast as an imposition of Western feminism on African culture when in fact the context in which this practice takes place has changed.

In conclusion, while it is possible to talk about this at an abstract level of thought, there are real challenges on the ground pertaining, for example, to how official development and professional practice have ignored people's perspectives of their problems and solutions, merely out of assuming the scientific and analytical superiority of its own discourses. The suggestion that the scientific potential is universal is a suggestion that cross-cultural

communication does exist and must not be doubted. Cross-cultural values and capabilities, with specific geographic and historic justifications, must be respected as long as they do not compromise our cross-cutting human values. The latter must challenge the former where contradictions are perceived, but science must not override culture unnecessarily. The difficult trick is to identify the limits of objectivity and the limits of subjectivity i.e. to acknowledge that we can negotiate values and come up with our own standards of excellence. Just as much as I am suggesting a co-ownership of science, the co-ownership of values is possible – though not all values will be shared completely. Part of the challenge is knowing when to pull back from posing judgment.

Scholarship is a halfway mark between indigenous perspective and science. It is an attempt to pinpoint exactly what has potential to be scientific in what starts out as indigenous knowledge or is an indigenous, context-influenced quest for knowledge. Thus different scholarships – African, Western, and local scholarships (American, British Kenyan, South African, etc.) – must exist without any apologies.

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