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ARTICLE



Research on Indigenous knowledge systems: the search for cognitive justice

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ABSTRACT

Indigenous Knowledge Systems (IKS) are referred to differently in different contexts and circumstances. Related conceptions include 'Traditional Knowledge Systems' (TKS), 'Endogenous Knowledge Systems' (EKS) and 'Classical Knowledge Systems' (CKS). A focus on IKS implies an archaeology and re-appropriation of those knowledges that were not allowed to 'be', to enhance our human understanding, and develop, protect, and promote them. Most exigent in a decolonised context is the transformative challenge of developing appropriate protocols, codes of conduct, and terms for any dialogue and integration. This paper argues that at a systems level, IKS demands: establishing an ethically sound and ecologically constituted way of thinking; affirming the multiplicity of worlds and forms of life; creating a shared paradigm shift; self-reflexive praxis; becoming critical explorers of human and societal possibilities; establishing new evaluation and appraisal criteria; and a transformation to new futures. Such a transformation recognises cognitive justice as a plurality of ways of knowing.

KEYWORDS

Indigenous knowledge systems; cognitive justice; reciprocity; transformation; the political economy of 'othering'; knowledge and innovation; integration of knowledge systems

Introduction

This paper/think-piece is located in the transformation of knowledge production system in post-Apartheid South Africa. In 1997, the author was appointed as Technical Adviser to the Parliamentary Portfolio Committee responsible for Arts, Culture, Language, Science and Technology of the South African Parliament to help the apex body articulate its position regarding Indigenous Technology at that time. Over many months, it became clear that the issue was much deeper and broader. It signified taking control of a whole new system, the African Indigenous Knowledge Systems (IKS), completely unarticulated before, and bringing it to the mainstream. A decision had to be taken. How would the Western-driven mainstream systems react? Would they not sentence this young initiative to death? A SWOT analysis mapping out the terrain of possible resistance was drawn. In South Africa, there are eight Science Councils. The author was delegated by the Portfolio Committee to go and workshop the Presidents and Deputy Presidents comprising the Committee of the Heads of Science Councils (CHSC) first, for 2 years, until the Science Councils accepted that there was something missing in the construction of the knowledge production system in South Africa. The concept paper that came from two years of work, became the basis for possible groundwork, taking IKS forward. Reading the Report, the Minister of Science and Technology set up a bi-National Commission between South Africa and India; then South Africa and China to investigate the way these two countries dealt with the mainstreaming or integration of their

Indigenous Knowledge Systems. The author played a leading part in these Commissions, leading to a Ministerial appointment of the author in 2001, to lead a Task Team to draft the *Policy on Affirmation, Recognition, Development and Protection of Indigenous Knowledge Systems*. The Policy was passed by the South African Cabinet in 2004. It was a first of its kind in the African continent.

This paper presents salient issues that the country, and more broadly all countries which underwent colonialism, experienced and proposes what can be done to transform the Western-oriented systems in accepting a plurality of ways of seeing and existing in the world. Cognitive Justice (coined by Shiv Visvanathan, 1997) denotes the right of all forms and traditions of knowledge to coexist in public without duress. It is a methodology and a vision at the same time.

Indigenous knowledge systems: an overview

Indigenous Knowledge Systems (IKS) are referred to differently in different contexts and circumstances. Related conceptions include 'Traditional Knowledge Systems' (TKS), 'Endogenous Knowledge Systems' (EKS) and in some instances 'Classical Knowledge Systems' (CKS). Each of these refer to the same content, but with particular foci. South Africa has chosen 'Indigenous Knowledge Systems' as a preferred capping concept (Odora Hoppers, 2001a). It refers to that system of knowledge in philosophy, science, technology, astronomy, education, mathematics, engineering etc that are grounded in the total 'cultural' (very broadly defined) heritage of a nation or society and is maintained by communities over centuries. These systems are underlaid by an interlocking web of ethical, social, religious, and philosophical sub-systems that determine broad cognition patterns, as well as provide it with a rational essence and emotional tone.

In the context of countries like China, IKS provides the bedrock of its scientific and technological advancement, witnessed in the clothing and textile, food, medicine, architecture, construction, and other sectors. They are underpinned by a distinctive philosophy and 'way of life', including a way of being and ways of relating to others. In Africa and other parts of the Global South, where colonialism not only went deeper but was accompanied by European nationalism, all the knowledge systems that people had used for generations were unilaterally declared 'unfit', 'irrelevant', 'primitive', or even 'evil'. The religious ideology of the day posited the belief in a Christian god as the only god, forcing people to laugh at their own gods, to denigrate them. Not infrequently, states Marimba (1994), science was also used ideologically within the framework of colonialism to demonstrate not only the superiority of the Caucasian race, but also to imbue the knowledge generation process with a mechanistic, dualistic, materialistic, instrumentalist, and linear way of seeing and doing.

Most of these violated key precepts undergirding the systems in Africa, Asia, and non-Western societies. It led to the alienation and objectification of nature, a fundamental de-spiritualisation of human development, and the privileging of an extractive and exploitative relationship with nature and with non-European peoples in general. It not only created fundamental cognitive deficiencies in billions of people, it generated insecurity and self-doubt within dominated groups, as well as denying them the right to ontological experience and a sense of being. More seriously, it pre-empted or even stunted the natural development path that these systems of knowledge would have undergone during what may be termed 'the lost years'. The world also lost its opportunity to learn from other societies whose basis was ecologically coded, and whose human-centred development had been cultivated for centuries.

A focus on IKS therefore implies the archaeology and re-appropriation of those knowledges that were not allowed to 'be', to enhance our human understanding, and develop, protect, and promote them. Most exigent in a decolonised context such as South Africa, and the African continent as a whole, is the transformative challenge of developing appropriate protocols, codes of conduct, and terms under which any integration and dialogue should occur. For scientists and academics, it also implies taking community holders of knowledge as fellow experts. It means reorganising research, development strategies, and ethical practices accordingly, including a serious consideration of

issues related to the protection of Intellectual Property Rights, economic benefit sharing, poverty alleviation, and employment creation. For all the disciplines, it mandates a rethinking of the tenets and limitations of existing disciplinary arrangements. For sector ministries, it implies broadening the operational parameters of existing policies, including the implementation strategies that accompany them.

At a systems level, IKS demands the establishment of an ethically sound and ecologically constituted way of thinking, the affirmation of the multiplicity of worlds and forms of life, the creation of a shared paradigm shift, self-reflexive praxis, becoming critical explorers of human and societal possibilities, the establishment of new evaluation and appraisal criteria, and the transformation to new futures. This paper lays out the conditions for cognitive justice to be realised in the academy in general, and universities in particular.

The broad diagnosis: what the hell has been going on?

From the theft of territory to the theft of knowledge

One of the consequences of colonialism and apartheid for Indigenous knowledge systems was the fundamental erasure that was effected over the rich knowledge heritages of non-Western people. Colonialism and colonialists began by declaring non-Western lands as 'empty', i.e. devoid of people or ideas. They declared the diverse sciences and innovations that steered and maintained those societies over millennia, as 'non-science'. In this strategy of 'conquest by naturalisation', the cultural and intellectual contributions of non-Western knowledge systems were systematically erased (Shiva, 1997, p. 1). They were not taught in schools, they were omitted from history textbooks, and they were not allowed into public domains. Rather this was reserved exclusively for knowledges, heritages, cultures, institutions, norms, and idiosyncrasies of Western society. Most public institutions including universities throughout Africa, including South Africa, are still structured in this way.

Piracy, and later biopiracy, which were associated extractions without recompense, accompanied by exploitation and violence on the 'Other' such as slavery and forced removals, was established as the natural right of the coloniser. Today, bioprospecting still renders invisible the fact of prior use, prior knowledge, and prior rights associated with biodiversity. As the original economic and ecological systems disappear, the Western prospector is unjustly projected as the only source for medical or agricultural uses of biodiversity (Laird, 1994, pp. 145–149).

Ironically, it is gradually, albeit belatedly, recognised that many activities and products based on IKS are important sources of income, food, and healthcare for large parts of the populations in many developing countries. However, real thorns come from the fact that IKS is oftentimes appropriated, adapted, and patented by scientists and industry with little or no compensation to the custodians of this knowledge, without their prior informed consent (PIC), and without any consideration for benefit sharing. Like many developing countries, South Africa seeks to ensure that the benefits of cumulative innovation associated with Indigenous Knowledge accrue to its holders while enhancing socio-economic development. This is particularly true in the field of traditional medicines in which one witnesses some of the most glaring evidence of expropriation and exploitation.

But today we are faced with globalisation, the janus-faced phenomenon which is threatening the appropriation of the collective knowledge of non-Western systems into proprietary knowledge of a few. The scale of this is as shocking as it is untenable.

- of the 119 drugs developed from higher plants and on the world market today, it is estimated that 74 % were discovered from a pool of traditional herbal medicines (Posey & Dutfield, 1996, p. 102).
- The annual world market for medicines derived from medicinal plants discovered from Indigenous peoples amounted to US\$ 43 billion in 1985 (Posey & Dutfield, 1996, p. 102).

- A report prepared by the Rural Advancement Fund International (RAFI), estimated that at the beginning of the 1990s, world-wide sales of pharmaceuticals amounted to more than US \$130,000 billion annually (Posey & Dutfield, 1996, p. 102).
- Other reports state that plant-derived prescription drugs in the USA originate from 40 species, of which 20 are from the tropics. The 20 species from the tropics generate about US\$ 4 billion for the economy of the USA (Posey & Dutfield, 1996, p. 102).

Although trade in medicinal plants from developing countries has increased, few, if any benefits accrue to those countries and traditional communities. Total trade in herbal remedies and botanicals in 1995 yielded over US\$ 56 billion, yet the only payments to the communities (less than 0.001% of the profits) were for the manual labour involved (Posey & Dutfield, 1996, p. 103).

It is clear therefore that IKS requires two forms of protection. Defensive protection, also referred to as ‘negative protection’ which generally entails protection from something. The second type of protection is ‘positive protection’, which is protection to . . . , in other words, a developmental, incubatory form of protection.

Science, scientism, and the political economy of ‘othering’

An opaque process less discerned by the average citizen except in its effects is the subject-object divide characteristic, endemic to scientific practice. First, what we need to do is to distinguish the performative aspects of science, i.e. the creations, the technologies and discoveries associated with it, from **scientism**. Scientism is the ideological use of ‘science’ defined Eurocentrically, as an activity which sanctions all thought and behaviour, and posits science as sacred, with the highest standard of morality (Odora Hoppers, 2001a). It is this ideological use of science that uses objectification as a key cognitive modality. It is this objectification that designates everything other than the ‘self’ as object (Visvanathan, 1997).

Some analysts have looked closely at this problem and according to those insights, they state that science turns the ‘self’ into an ultimate manipulator, a spectator, a recorder of events, an act of alienation. Over time, the gaze of science over the so-called ‘non-scientific’ became a gaze of surveillance. Visvanathan argues that the way science is constituted prevents the entry of pain and compassion, leaving the ‘I’ of science an impoverished self without a backstage. He argues that science is not only political but goes beyond politics to create its own micro-physics of power, with its own capillaries by pre-empting and terminally judging the way one thinks (Visvanathan, 2002).

The scientific method, combined with the colonial enterprise, stands implicated in the worst excesses of imperialism. The term ‘research’ itself stirs up in local communities a silence; it conjures up bad memories that still offend the deepest sense of our humanity. It galls non-Western societies that Western researchers, intellectuals, and scientists trained in that tradition, can claim to know ALL that there is to know about other societies, a claim made on the basis of brief and superficial encounters with those societies. It often appals Indigenous societies that Western science can desire, extract, and claim ownership of people’s way of knowing, and then simultaneously reject those people who created those ideas, denying them the opportunities to be the creators of their culture and own notions (Smith, 1999; Odora Hoppers, 2001b).

Researchers in IKS should therefore decry the manner in which the social sciences have joined with the natural sciences in assuming that the subject (researcher) can be separated from the object (those researched) through a methodological screen (Weskott, 1987). Academic social and natural sciences research continue to exploit the poor and the marginalised, especially Blacks, and women, in the name of science. Weskott (1987) cites the case of Black people in the United States who were measured, analysed, processed, dissected, and reduced to manipulable data that advanced the career interests of the investigators, but did little to improve the plight of the investigated. Most of the time, women have been an attractive subject to exploit so long as the purpose of social knowledge is simply

getting more information. In social science's unrestrained pursuit of information, any new object of study that can generate mounds of data becomes 'very interesting' and retains interest so long as it is a prolific source. When the data is no longer new, the object loses its primacy (Weskott, 1987).

The denial of will, agency, and history to its 'objects' is only part of the ancestral problems researchers have inherited from Bacon, Descartes, and Newton, and later Galileo. The ethos that still runs the scientific enterprise in both the natural and social sciences is based on the Cartesian-Newtonian mode that entrenched detachment and wanted us to perceive everyday reality in terms of separate objects and linear time. There is no history, consciousness, no will, and no sense of empathy or compassion with the objects of research. It was Galileo, however, that brought in the measurement and figures. Galileo said that whatever cannot be measured and quantified, is not scientific. In post Galilean science, this came to mean that what cannot be quantified is not real (Capra, 1988, pp. 127–139). In medicine, it is the Cartesian worldview that insists that the body be perceived as working mechanically like a clock, rather than as a matrix with a complex web of relationships within social environments, and socio-cultural contexts of illnesses.

Indigenous people and local communities have suffered as objects of research but not as full agents and owners of knowledge. Now, it is the time for IKS. Codes of conduct have to be put in place to ensure that no such abuse occurs again. These issues challenge researchers and research institutions individually and collectively to define new fundamentals not only for research and theorisation, but also in linking with communities (Odora Hoppers, 2001a).

Knowledge and innovation

It has been stated that the twenty first century will be the century of knowledge, indeed the century of mind. Innovation is the key for the production as well as processing of knowledge. A nation's ability to convert knowledge into wealth and social good through the process of innovation will determine its future. Issues of generation, valuation, protection, and exploitation of intellectual property (IP) are therefore going to become critically important all around the world. Intellectual property will no longer be seen as a distinct or self-contained domain, but rather as an important and effective policy instrument that would be relevant to a wide range of socio-economic, technological, and political concerns.

The development of skills and competence to manage Intellectual Property Rights (IPR) and leverage its influence will need increasing focus, particularly among the developing countries. At the same time, an understanding of the role of IPR in the process of innovation, and the role of innovation itself in the process of development, is crucial. Innovations go beyond the formal systems of innovation carried out in universities, industrial research, and development laboratories. For proper development to occur, innovations **from below** should be taken into account, and appropriate support at national level accorded (Mashelkar, 2002).

Indeed, many societies in the developing world have nurtured and refined systems of knowledge of their own, relating to such diverse domains as geology, ecology, botany, agriculture, physiology, and health. Within this, the emergence of terms such as 'parallel', 'Indigenous' and 'civilisational' knowledge systems are also expressions of other approaches to the acquisition and production of knowledge. Indigenous knowledge and innovation systems must therefore be sustained through active support to the communities who are keepers of this knowledge, custodians of their ways of life including their languages, their social organisation, and the environments in which they live.

The issue of biodiversity erosion and sustainability ethics

While innovations promise to be a key factor in promoting equitable and sustainable development, it is recognised that there is a gross asymmetry in the rights and responsibility of those who produce Indigenous Knowledge in local communities and those who go about valorising it in the formal sector. This brings to light the issue of the ethics of extraction and responsibility (Gupta, 1999).

Experiences with development efforts during the postcolonial decades in Africa and the Global South show that development that is not embedded, and development that does not build on what people have, is bound to fail. At the same time, other experiences are emerging which demonstrate that Research and Development (R&D) activities can be undertaken directly with local communities and custodians of IKS, provided that adequate protective protocols, terms, and conditions are worked out and agreed upon.

From the perspective of biodiversity, it has become clear that a major threat to the sustainability of natural resources is the erosion of people's knowledge. The basic reason for this erosion is the low value attached to it. Indigenous veterinary experts, human herbalists, and pastoralists know a lot about the habitats, life cycles, various aspects of plants, and other resources. In this context, it is important to understand the fact that biodiversity erosion starts a chain reaction. The disappearance of one species is related to the extinction of innumerable other species with which it is interrelated through food webs. The crisis of biodiversity is therefore not just a crisis of the disappearance of the species which serve as industrial raw materials, with potentialities for spinning millions of dollars for corporate enterprises. It is, more basically, a crisis that threatens the life support systems and livelihoods of millions of people in developing countries. Yet, efforts to build upon knowledge systems of people who have maintained their natural resources so far are quite inadequate (Shiva, 1997).

The issue of 'value adding' to innovations occurring in local communities is key to authentic development. In the area of biodiversity, value addition will help local communities co-exist with biodiversity resources, by reducing primary extraction and generating long term benefits. There is also a need to connect creative people engaged in generating local solutions, which are authentic and accountable, thus facilitating people-to-people learning. The discussion on biodiversity can only become authentic if we probe deep enough into knowledge traditions of each part of the world to discover the roots of sustainability ethics. But this discovery requires preparing our minds for visions which may collide with the dominant materialistic world view.

Local communities are 'knowledge-rich, but economically poor'. The search is therefore for a middle way in the development of linkages between IKS and formal knowledge processes, including the development of clear strategies that aim at the development of IKS specifically.

The budapest science agenda

The *Agenda for Science in the Twenty First Century* from the UNESCO World Conference on Science (UNESCO, 1999) recognises that science has become a powerful intellectual institution with a far reaching and profound influence on our daily lives, our relationship with the environment, our system of values, and our world view. However, notwithstanding its prominence in mainstream society, science remains but one knowledge system among many. Other knowledge systems, embedded in a panoply of cultures, and sustaining a broad spectrum of ways of life, constitute a rich and diverse intellectual heritage that has begun to attract increasing attention worldwide (Nakashima, 2000, p. 432).

Whatever name is applied, the fact remains that knowledge systems such as these, have guided, and continue to guide, human societies across the globe in their innumerable transactions with the natural world: agriculture and husbandry, struggle against disease and injury, hunting, gathering, naming and explanation of natural phenomena, maintenance of equilibrium between society and milieu, and adaptation to environmental change, etc. They represent the dynamic products of an extended history of fine-grained interplay between distinct cultures and specific local environments. This explains their diverse structures and content, their complexity, versatility and pragmatism, and their distinct internal logic anchored in specific world views (Nakashima, 2000, p. 432).

When confronted with IKS, the first response from scientists is usually to go **prospecting**. Traditional Knowledge is taken as information useful to science in a one-way trajectory. The potential benefits of the ensuing enterprise are multiple: Indigenous crop varieties with 'desirable' characteristics; new active agents from traditional medicinal plants; local management techniques

co-adapted to local eco-systems; etc. However, grave concerns have arisen, and continue to arise with greater intensity and force about the misappropriation of traditional intellectual property, often for economic profit, and with total disregard for equitable sharing of benefits with local knowledge holders. In this way, the blind excursion of science, and the imposition of science-centred approaches as the sole criteria for developing IKS pose more problems to Indigenous knowledge. IKS possess a cultural logic of their own.

When screened on the sole basis of science, knowledge judged useful is selected and what remains is discarded as 'superstition and belief'. Such a process dismembers, debases, and destabilises knowledge systems, jeopardising their continued existence. By 'mining' these systems for short term intellectual gain, we undermine their very social, and cultural foundations and menace the traditional societies that have sustained them (Nakashima, 2000, p. 432).

... traditional knowledge systems, as dynamic expressions of perceiving and understanding the world can make, and have made, a valuable contribution to science and technology, and there is a need to **preserve, protect, research, and promote this cultural heritage and empirical knowledge** (UNESCO, 2000).

The *World Conference on Science for the Twenty First Century* (Budapest 1999) therefore established what efforts should be invested to make science advance, in response to both social expectations and the challenges posed by human and social development. Among other things, it reiterated the commitment to the scientific endeavour, especially to finding solutions to problems at the interface between science and society. It also made recommendations as to capacity building in science, and the use of science for sustainable development. Pertinent to IKS however, are the pronouncements contained in Section 3 of the *Science Agenda: Framework for Action* entitled 'Science in Society and Science for Society'.

The *Declaration on Science for the Twenty First century* therefore emphasises, among other things, that:

- all cultures can contribute scientific knowledge of universal value;
- there is a need for a vigorous and informed democratic debate on the production and use of scientific knowledge;
- the scientific community is expected to open itself to a permanent dialogue with society, especially a dialogue with other forms of knowledge (UNESCO, 2000, p. 21);
- modern science does not constitute the only form of knowledge, and closer links needs to be established between this, and other forms, systems, and approaches to knowledge for their mutual enrichment and benefit;
- a constructive inter-cultural debate is in order, to help ways of better linking modern science to the broader heritage of humankind (UNESCO, 2000, p. 27);
- that all human beings have the right to participate in the scientific enterprise;
- that increasing participation or involvement of all sectors of society in the scientific enterprise entails a systemic revision of science, and therefore that the decision making and normative mechanisms of the institution of science will inevitably be affected;
- that any kind of central monitoring, whether political, ethical, or economic, needs to take into account the increasingly diverse actors entering into the social tissue of science (UNESCO, 2000, p. 27);
- that full and free exercise of science, with its own values, should not be seen to conflict with the recognition of spiritual, cultural, philosophical, and religious values. An open dialogue needs to be maintained with these value systems to facilitate mutual understanding; and finally
- for the development of an all-encompassing debate on ethics in science, and a possibly ensuing code of universal values, it is necessary to recognise the many ethical frameworks in the civilisations around the world.

Science must therefore become a shared asset benefiting all people. Scientific research and its applications can yield significant returns towards economic growth and sustainable development including poverty alleviation. However, scientists have a special responsibility to seek to avert applications of science which are ethically wrong or have an adverse impact, thus the need to practice and apply the sciences in such a manner that is inclusive of, among other things, the participation of Indigenous peoples and ethnic minorities. It is also essential that the fundamental role played by women in the application of scientific development to food production and health care be fully recognised and efforts made to strengthen their understanding of scientific advances in these areas.

Language

Language remains a problem in the country's effort to revitalise local communities. Writing in English for example, has been recognised as being valuable for connecting internationally, but that it alienates locally. The goal here is firstly, to encourage transparency in the interaction between the 'collectors' of knowledge that visit local communities, and the IKS holders. Secondly, it is to feed back what scientists learn from and make of IKS to local communities and individual innovators in their language. Thirdly, it is to share with them what scientists learn from other contexts (i.e. enhancing the public understanding of scientific developments) (Gupta, 1999). Any dynamic knowledge system therefore must evolve through the continuance of traditional knowledge as well as contemporary innovations, and these should be pursued by individuals as well as communities mediated by a language that is clearly understood by the IKS holders.

Integration

The concept 'integration' can be interpreted narrowly and specifically, or broadly and generally. If interpreted narrowly and specifically, it could mean that the integration of IKS into the existing hegemonic knowledge systems would lead to the perversion of IKS and its assimilation by the latter. On the other hand, when interpreted broadly and generally, the integration of IKS with the existing knowledge systems would be dialectical. This would lead to changing aspects of the existing knowledge systems and the mainstreaming of aspects of IKS. Looked at from this latter perspective, the existing knowledge systems and IKS would not be and remain parallel streams whose waters do not meet and blend. At the same time, there would still be the possibility of areas of existing knowledge systems and IKS that could remain independent of each other.

It is integration that posits dialectical challenges to both systems, and holds the best possibility for IKS wisdom and insights to be a shared resource in the creation of a better future for all humankind. It should be stated that there exists tremendous scope for complementarity between the knowledge systems. The challenge has been the terms under which the relationship between the knowledge systems have been built.

The institutional challenges

In taking on this issue, Indigenous scholars have the assumption that one of the key challenges for higher education is to handle change and transformation intellectually, develop frameworks for rethinking plurality, and adjust their paradigmatic narratives to contextual realities. Universities are also centres, or part of a powerful system of 'discourse coalitions', armed with disciplines which control crucial resources that can either delimit or make possible the generation of new visions of society (Odora Hoppers, 2001b).

We also believe that there are ethical imperatives that we need to take into account as senior professionals in the academy. Firstly, responsible research requires us identify practices that give research a 'bad name' (e.g. the vampirish quality of research conduct towards marginalised groups,

denigrative undertones when researching local communities, and unethical/unscientific attitude to the usurpation of knowledge derived from communities). Secondly, taking ‘communicative action’ as essential in a situation in which plurality of viewpoints exist, there is a need to continually challenge our theoretical habits of thought. There is also a need to combine a recognition of the existence of multiple perspectives in society with a rational understanding of social phenomena. Thirdly, first you are human, then a scientist. This means that we develop a deep recognition that we are part of the problem and thus part of the solution. Fourthly, we have to develop person- (rather than structure) centeredness, recognition of history (histories), of values (technocracy is a flower that blossoms in periods of political conservatism), and promote cultural and epistemic tolerance. Fifthly, we should commit to challenge students to identify their positionalities as the starting point for creative work. In this way they can own the process and outcome of their work and defend it in any fora.

We now have enormous reservoir of intellectual, conceptual, and networking resources that have been developed and which we can put to the service of this and succeeding generations. We are now aware of new methods, multiple levels of approaches for dealing with conflicts, including psychological research on forgiveness, as well as the tensions that underlie the dual goals of revenge and redress. From these assumptions, I make the following demands on institutions, specifically university institutions.

Institutional challenge one: re-contextualisation of the university

Several scholars have elaborated fundamental critiques of the way science has removed the ‘anima’ from nature (by reducing social formations, social relations, and human beings to objects without history, teleology, self-reflection, or consciousness); and how it represents and sustains a pervading form of domination (Park, 1988). This is reinforced by a number of processes including the occlusion of social knowledge, social construction of reality, and the way sociological knowledge is applied. The point of contention here is that a positivistic and instrumentalist paradigm admits human beings into the arena of inquiry as possessors of measurable primary qualities deprived of such subjective attributes as will, goodness, and destiny.

As this way of thinking is elevated to the level of the only valid social knowledge worthy of a science, it means that many institutions have worked themselves into a trap in which the world is presented as peopled by object-like beings standing in abstracted relationships to each other and completely devoid of intentions. The subjects of action are ignored as actors, and ‘solutions’ to various social problems are then imposed onto these ‘object-like beings’ who are, in reality, the actual living population that comprise the society. Conscious action does not exist in this framework and populations are ‘target groups’ without any self knowledge, tradition, or culture. Yet, even as they are taken as if they were bundles of drives and learned reflexes, they are to become beneficiaries of such ‘knowledge’ (Fay, 1975).

The ‘Western’ university continues to sustain and maintain itself as the microcosm of the *civitas* which reflects the mind of the city. However, in India as in Africa, civilisation was associated with both the ancient cities AND the forest, taking on its particular and distinctive character from its origin in the environment. Its intellect sought spiritual harmony with nature, while the mind of the city especially that which descended with colonialism and imperialism, buttressed by scientism, sought the subjugation of nature (Visvanathan, 2000, p. 3599).

The Sage in the forest hermitage was not interested in acquiring and dominating, but in realising and enlarging self-consciousness by growing with, and into the surroundings. The heart of Africa thus looks back upon the unifying power of simplicity and generosity as well as dignity of its civilisational heritages, cultures, and philosophies. The West, on the contrary took pride in subduing nature. As a result, Visvanathan argues, the American wilderness, unlike the Indian or African forest, lacked cosmic power. For the West, nature belonged to the category of the inanimate. Western though posited a disjunction between nature and human nature. The dialogue between the

two universities (the Western and the African) should, in terms of epistemology, therefore be between a city science and a forest science, between a mode of being that sought harmony with nature and a way of doing that sought possession of it. While we cannot deny the power of Western science or the dynamism of the Western university, the dialogue of knowledges can only begin when the differences are understood and recognised (Visvanathan, 2000, p. 3000).

It is the recognition of this epistemological tenet of the university's agenda for reconnection with the context therefore, that is significant in terms of the actual or potential transformation that may be under contemplation.

Institutional challenge two: the university and the 'other'

The search for reciprocity – of a 'space of fraternal co-existence' – is itself an ethical choice which carries some real implications. It implies affirming the richness of the Other, even in their material poverty. It implies affirming that this is not a matter of quantity but quality of life, and that all helping is reciprocal, just as learning must be reciprocal. This respect for the Other implies acceptance of dissension, of loss, and of death which is translated into a life for the 'Other' (Latouche, 1991, pp. 15–17).

Taking this one step deeper, there is another kind of fraternity which needs to be built, and this is the fraternity between forms of knowledge. This is particularly important in the contemporary moment, when craftsmen, tribal people, traditional experts, and women are not seen as part of the citizenship of knowledge; and especially when it is still assumed that the history of knowledge begins with one's entry into the university. It is local knowledges that universities tend to ignore. With the hysteria around patenting, it becomes increasingly clear that scientists are busy patenting bits of knowledge which have been part of the lifeworld of Traditional communities for centuries. The imperative to fraternity therefore imposes an ethic with the obligation to develop a fraternity of ecology of knowledges.

The development of such an ecology must take as its starting point the acknowledgement of the fact that modern development tends to privilege scientific knowledge over other forms of knowing. Science in relation to other forms of knowledge has also tended to hegemonize them by either by museumising them into ghettos, or by treating them as Occult or Oriental, as primitive superstition. The objective would thus be to return life to these forms of knowledge and to restore their place in the livelihood of communities, so that they can determine the nature and pace of the development they require, without coercion.

From this point of view, the absence of bicultural experts at the epistemological level has made it next to impossible to break the cycle of hierarchizations of knowledge endemic in the structures of the university, the prejudice of science, and the pitfalls of modernisation in general. It has made it difficult to create a systems level dialogue, that identifies and articulates systems difficulties, systems limitations, and new possibilities while building combined strategies anchored in multiple knowledge systems. In short, it has made it almost impossible to contemplate Indigenous Knowledge Systems without strapping it to the 'procrustean bed' (Visvanathan, 2000, p. 3604) of Western knowledge systems.

An experiment in cognitive justice can turn this hierarchy into a circle. The search becomes not just one for equality, but for a method of dialogue. Only with a method for exploring difference and providing for reciprocity with empathy, is fraternity born at the cognitive level. It is not just respect for the knowledge system. It is an understanding of life forms, livelihoods, and ways of life. It is fraternity at the epistemological and ontological level that the university needs. It is in this search for cognitive justice as a fraternal act that the future university lies. A theory of the university must be theoretical (Visvanathan, 2000, p. 3604).

In other words, fraternity cannot be reduced to community-hosted programmes or summer visits. Local knowledges, tribal knowledges, civilisational knowledges, dying knowledges all need a site, a theatre of encounter, which is not patronising, not preservationist, not fundamentalist, not

reactionary, but open and playful. Without this mix of theory and vision, the communities of knowledge one is searching for, might be stillborn. The university must encompass not merely dissent and diversity, but also the question of violence relating to the Other beyond the fence or border. In short, Visvanathan sketches out the following:

- (a) The university must provide the heuristics, the methodological discipline, the nondominant, nonfundamentalist space that this reform strategy needs.
- (b) The university needs to combine the ethical and the political, a theory of the Other as a thought experiment, and as a form of life.
- (c) Universities must develop theories of development that do not end in the disaster of serial displacements, which we have seen over the past four decades.
- (d) Universities must remain an enabling environment in which the 'Other' still needs to articulate their conceptions of an alternative world and their vision of the university in it.
- (e) Finally, the university needs to develop a theory of the 'West' within the ambit of an alternative vision of the world (Visvanathan, 2000, p. 3606).

Institutional challenge three: developing new tools for researchers within institutions

RETHINKING INSTITUTIONS AND THEIR OBJECTIVES

Scholars need to make profound changes in the existing rules and regulations governing scientific activities. They need to look closely at, and where appropriate, interrogate the progressive but conquering heuristic activities currently taking place in universities. We also need to explore deeper into the interface between epistemology and democracy as well as explore potentials for true exchange and reciprocal valorisation among knowledge systems. My position, well put by philosopher Hountondji (1997, p. 13), is that, rather than embarking on a romantic trip to the past, we need to engage in critical evaluation of IKS, to recognise inner truths and coherence, to facilitate its active re-appropriation into current, living research work. IKS also calls upon us to explore the intrinsic efficiency of orality, in order to expose the semantic shift that has turned the illiterate from someone who is ignorant of the alphabet to an absolute ignorant. It has turned the equation of what is not written into being thoughtless – which has been central to the strategic disempowerment of African societies. The intention here would be to recenter Africa by a critical but resolute re-appropriation of African cognitive heritage (Hountondji, 1997, p. 13).

Even the qualifier 'international' ends up meaning diversity that has been subsumed into the Western perspective. Thus, we need to develop a notion of 'equity' that goes beyond making concessions to marginal groups, allowing them access to goods which mainstream dominant groups enjoy, or being 'nice' to those less fortunate than ourselves, towards one which works reciprocally in all directions. A truly equitable society is the one in which the mainstream groups see it as essential for minority groups to have access to their linguistic and cultural resources, and demand such access as a matter of equity. Equity cannot be left as a matter of making concessions. It should be seen as a matter of equality in cultural trade, where each social group is seen as having contributions of equal value to make to all other social groups in the larger social unit (Kress, 1996, p. 18).

The question then becomes: how should the African researcher broach a conception of sociology which only comes from self-possession, as it unfolds or brings into play what she/he knows? How can the African researcher come back to the inner self and identity as a basis for describing or analysing the issues that swirl around him/her? How shall the African researcher deal with the painful silence that academia maintains around problems of cultural asphyxiation, epistemological disenfranchisement, cognitive injustice, Western-culture-based education, and structural violence? Who shall give legitimacy and voice to these unsung songs, these untold stories, the insurrection of which may be the remaining missing piece in the re-humanisation of both the perpetrator and the victim? To address this, we need to dig further into the possibilities that exist within our reach.

SUBJECTIVE CERTAINTY AND PHENOMENOLOGY

Here I draw upon contributions of some sociologists who, in recognising this kind of dilemma propose a procedure of turning one's thinking and emotional life into a resource for articulating one's conception of sociology. Positing a notion of subjective certainty Husserl add that true history gets its life entirely from us. He appeals for a method of philosophical thought which would explore the reflexive ties between rational subjectivity and the regional ontologies of science, economics, politics, and everyday life. He states that we need to understand what moves us, i.e. what is in the way a table is set, a garden is cared for, and a mother dresses a child etc., that holds us and makes us either cry or sing in the telling. This essence is what we need to hold against time, against our profession, and against our own indifferences. The transfiguration to emerge would then constitute the union of mind and heart (*amor intellectualis*), for, we are, ourselves in the place of things, of their variety, and their common load. To think that the 'thinker' is a human without passions, a homeless figure as Husserl (1970) argues, is to falsify the passionate understanding which is the very circumstance of things.

Subjective certainty does not treat circumstance as a background, neither does it abstract it from its circumstances and rise above it. Rather, it is about the attachments of memory, a connection of our senses, as well as a way to understand and love one another as we would like to be understood and loved by others as well as by ourselves. According to Husserl, it is only by this path of thought and practice that we can figure out our return to what is around us; their touch, smell, seasons, uses and an exploring of how they can offer us a chance of redemption rooted in those things which constitute the ultimate wisdom. The truth of the lived world is the way of ourselves with them, a bond of faith, even in argument and anger. The work of sociology from this viewpoint, is to confront the impassionate world of science with the epiphany of family, habit, prejudice and rude memories of oppression and subjugation. This is the only way to turn intellectual order from an instrument of domination into a capacity for reliving our thoughts (Husserl, 1970).

COMMUNICATIVE ETHICS AND CRITICAL THEORY

From critical theory, Habermas also gives us some useful codes which we can turn to good use for the sake of setting parameters for our thought within the mandate of IKS research. It is particularly useful for researchers to recognise the games that our institutions play in distorting our capabilities to communicate with the 'Other'. In his article on 'Critical Theory and Organizational Analysis', Forrester (1983) argues that human beings recognise each other as a result of intersubjective communicative competence. In our search for improved communication, we can be in a position to investigate how a given social structure may itself be a structure of systematically distorted communicative actions that practically and subtly shape its members' lives. Similarly, in attending to the historical stage on which social actors meet, speak, conflict, listen or engage with one another, and in linking micro-social situations with macro understanding of settings, critical theory articulates an ontology and epistemology of historically shaped human beings whose structural and organisational relations work in each instance either to distort or to emancipate citizens' lives. Just as misrepresentation of facts may betray truth claims, and abuse of expertise may betray legitimacy claims, and lies may distort a sincerity claim.

Although cooperation and communication free from domination may be implicit in most simple acts of speech, they are never guaranteed. By exposing the political and structural production processes and the vulnerability of citizens' beliefs, consent, trust and attention, critical theory reveals the ways in which social action and actors may be deceived, misled, manipulated, mystified into a perfectly 'legitimate' and uncoerced political consensus. According to Forrester, when organisations and politics are structured so that their members have no protected recourse to checking the truth, legitimacy, sincerity, or clarity claims made on them by established structures of authority and production, what reigns is dogmatism rather than social learning, tyranny rather than authority, manipulation rather than cooperation, and distraction rather than sensitivity. In short, when discourse is blocked, the very intersubjectivity and sociality of human beings is threatened,

cooperation endangered, belief can no longer be grounded, consent can no longer be justified, and attention is distracted. As discourse is denied to participants, they (the participants) are likely to be rendered powerless, ignorant, and mystified. According to Freire (1972), any situation in which some prevent others from engaging in the process of enquiry is one of violence.

Yet, these distortions may not be deliberate or calculated, but rather an ongoing inheritance, a consequence of the structuring of attention inherent in a given organisation's structure, unintended consequences of custom, status, or power relations that are neither inevitable nor immutable. It therefore becomes an imperative for us to collectively work to improve on the tools that can help us to recognise, anticipate, and counter those systematic and socially unnecessary distortions of communicative interaction that reproduce domination and so hold us captive. As Forrester (1983) states, where there is no pragmatic analysis, there may be no effective and ethical practice, and thus no improvement. And where there is no vision, there is no hope, and people perish.

BOURDIEU AND THE RESEARCHER AS A CULTURAL PRODUCER

Further articulating the problematic of research, researcher and structures, Bourdieu and Wacquant advocate the inclusion of a theory of intellectual practice in any critical analysis. Epistemic reflexivity therefore refers to the role of intellectuals and specifically the sociologist as a cultural producer. This notion of the 'return of science upon itself' implies for the researcher/analyst, both self-reference and self-awareness of the double role the researcher carries at all times: that of being a member of society, and of being the analyst of society, problematising those processes. The approach refers to reflexivity in terms of a combination of three referents: agency, science, and society. The power of a mode of thinking never manifests itself more clearly than in its capacity to constitute insignificant objects into scientific objects, and to bury significant objects and render them insignificant (Bourdieu & Wacquant, 1992). The role of research and the researcher envisaged throughout this work becomes one of active human agency and commitment, fully aware. As Ball has cogently put it, that 'the role of representative institutions in social democratic politics is constrained and distorted by the obvious inequalities of power inherent in capitalism' (Ball, 1990).

On the issue of commitment and the definition of critical policy analysis, Prunty adds that the personal values and political commitment of the critical analyst would be anchored in the vision of a moral order in which justice, equality, and individual freedom are uncompromised by the avarice of a few. The critical analyst would endorse political, social, and economic arrangements where persons are never treated as a means to an end, but as ends in their own right (Ball, 1990, p. 2).

This links quite appropriately with the humanist framework espoused by late Steve Biko who stressed the role and responsibility of intellectuals in political and social movements (Halisi, 1991). Biko constantly referred to pre-figurative approach to politics, and asserted that politics had an undeniably psychological dimension. He also strongly believed in the unique capacity of humankind to make and remake its own conscious life. Quoting Karl Jaspers on the concept of metaphysical guilt, the Biko stated that there exists among people, because they are human, a solidarity through which each shares responsibility for every injustice and every wrong committed in the world, especially for crimes that are committed in one's presence or of which one cannot be ignorant. If one cannot do whatever they can to prevent them, then they are an accomplice.

If I have not risked my life in order to prevent the murder of other men, if I have stood silent, I feel guilty in a sense that cannot, in any adequate fashion, be understood juridicially or politically or morally. (Woods, 1978, p. 136)

Ultimately, he said, no human being of conscience can remain neutral in a moral crisis of conscience. There are no national boundaries when the welfare of the family of humanity is grossly assaulted, for, somewhere in the heart of human relations, an absolute command imposes itself: in the case of criminal attack or living conditions that threaten physical being, we accept life for all altogether or not at all (Woods, 1978, p. 136).

FREIREAN CULTURAL ACTION

Freire further adds to our arsenal by stating that dialogue is an existential necessity. It is the encounter between learners mediated by the world in order to name the world. Hence dialogue cannot occur between those who want to name the world and those who do not want this naming – between those who deny other people the right to speak their word and those whose right to speak has been denied to them. Those who have been denied their primordial right to speak must first reclaim this right and prevent the continuation of this dehumanising aggression.

Dialogue is thus an existential necessity. And since dialogue is the encounter in which the united reflection and action of the dialoguers are addressed to the world which is to be transformed and humanized, this dialogue cannot be reduced to the act of one person's 'depositing' ideas in another . . . Dialogue cannot exist . . . in the absence of profound love of the world and for [others]. The naming of the world, which is an act of creation and re-creation, is not possible if it is not infused with love. Love is at the same time the foundation of dialogue and the dialogue itself (Freire, 1972, pp. 61-62).

Dialogue, Freire stated, cannot exist without humility, and cannot be an act of arrogance. It requires an intense faith in humankind. In fact, Freire states that faith in humankind is an *a priori* requirement. Consequently, the 'dialogical man' is critical and knows that 'although it is within the power of humans to create and transform in a concrete situation of alienation, they may be impaired by that power' (Freire, 1972, pp. 61–62). Only dialogue which is critical, is capable of generating critical thinking. Founding itself upon love, humility and faith, dialogue becomes a horizontal relationship of which mutual trust between the participants is the logical sequence.

Institutional challenge four: reviewing traditional fields and disciplines?

In this regard, there emerges a particular view of social science, as methodologically and epistemologically distinct from natural science, being in the first instance the study of the inter-subjective grounds of human action, i.e. socially shared and instituted meanings through which people live. Social science, it is argued does not have much of a choice but to take cognisance of the polysemy of history: its many meanings, its possibilities and ambiguities on the one hand, and the in achievement of social life on the other. Each situation, each moment in history, each element of the complex texture of social life is always open to plurality of reasonable interpretations – several ensembles or trajectories – differing by reason of cultural or individual context. From this perspective, culture can be seen as nothing more than the totality of the response given by each human group to the problem of social existence (Latouche, 1991 p. 5).

As Mafeje (2001) also emphasises, social scientists in the Global South countries must abandon instrumentalist and positivist notions about development. Their job, according to Mafeje, is to increase the level of social awareness or consciousness of the citizens of their societies. Significant meanings and understanding are not found at the level of methods and techniques. They are the products of the critical intellect. The so-called great technical competence that has been attained by humanity has been accompanied by increasing intellectual bankruptcy, with scholars in this field completely unable to generate any new ideas. Instead, they have left the analysis of the bigger picture to the journalists. Mafeje points out with much pain how, with a few exceptions, sociologists have retreated into exoteric micro-studies. Anthropologists, deprived of their exotica by the sweep of modern history, have become subjects without a clear object and are hence dabbling in everything in search of a new identity (Mafeje, 2001, p. 5).

Normative social science, Mafeje asserts, can rebound and be prepared to confront and objectify social and moral issues such as poverty, racism and globalisation implicit in the concept of 'social development'. This concept refers to the development of human capital, i.e. increased human awareness and capacity to improve the human condition. The role of the critical intellect is precisely to make this human condition apparent, and to reveal denied or unrecognised social opportunities.

This applies to South Africa with the greatest force possible. South Africa is not only a divided society, but a society not aware of itself. Despite its apparent development in the positivistic sense, by world standards it is social philosophically backward and direly needs to interrogate its past, so as to generate new ideas for the future . . . South African social scientists are therefore called upon to infuse their ethnographic imagination with a firm historical grasp. (Mafeje, 2001, p. 5)

For the re-establishment of Indigenous philosophical knowledge and a basis for resisting past and further imposition, it is absolutely necessary to interrogate all forms of received knowledge. Social science should serve as the consciousness of society and as a reflection of its reality, no matter how ugly (Mafeje, 2001, p. 7)!

Brief recommendations

- (1) Indigenous people and local communities have suffered as objects of research but not as full agents and owners of knowledge. IKS should entail codes of conduct that have to be put in place to ensure that no such abuse occurs again. These issues challenge researchers and research institutions individually and collectively to define new fundamentals not only for research and theorisation, but also for linking with communities.
- (2) It is clear therefore that IKS requires two forms of protection. Defensive protection, also referred to as 'negative protection' generally entails protection from something. The second type of protection is positive protection, which is protection to . . . , i.e. a developmental, incubatory form of protection.
- (3) Indigenous knowledge and innovation systems must therefore be sustained through active support to the communities who are keepers of this knowledge, custodians of their ways of life, including their languages, social organisation, and the environments in which they live.
- (4) Local communities are 'knowledge-rich, but economically poor'. The search is therefore for a middle way in the development of the linkage between IKS and the formal knowledge processes, including the development of clear strategies that aim at the development of IKS specifically.
- (5) Traditional knowledge systems, as dynamic expressions of perceiving and understanding the world, can make and have made, a valuable contribution to science and technology. There is a need to preserve, protect, research, and promote this cultural heritage and empirical knowledge.
- (6) It is also essential that the fundamental role played by Indigenous women in the application of scientific development to food production and health care be fully recognised and efforts made to strengthen their understanding of scientific advances in these areas.
- (7) Any dynamic knowledge system has to evolve through the continuance of Traditional Knowledge as well as contemporary innovations, and these should be pursued by individuals as well as communities mediated by a language that is clearly understood by the IKS holders.
- (8) Integration posits dialectical challenges to both the Western and Indigenous Knowledge Systems. The best possibility for IKS wisdom and insights to be a shared resource is the creation of a better future for all humankind, stressing complementarity between knowledge systems.

Conclusion: a post-victimology perspective

In the conclusion of my keynote to Oxford University in 1999, I argued that it is impossible to discuss poverty, power, and partnerships without stressing the universality of knowledge and emphasising the validity of subjugated and marginal people's knowledges in the search for sustainable development and environmental protection. I insisted that what was known as marginalisation must become a source for healing the diseased mainstream of patriarchal development. It is those facing threats that offer the best promise for survival because they have two kinds of knowledge that

are not accessible to dominant and privileged groups. Those we have thought are the wretched of the earth DO have knowledge of what it means to be victims of progress, and what it means to bear the cross. They have holistic and ecological knowledge of what the production and protection of life is all about. They also know that, what goes by the name of development, has been a source of violence to women, nature, and local communities (Odora Hoppers, 2001c, pp. 21–38).

It is therefore incumbent upon us to recognise this as a hardware problem embedded in the patriarchal assumptions of homogeneity, domination, and centralisation. This hardware problem underlies the dominant models of thought and development strategies. The crises emanating from maldevelopment cannot be solved within the paradigm of the ‘crisis mind’. The solutions lie in the categories of thought, perception, and action that are lifegiving and life maintaining. In contemporary times, it is rural people and women in the Global South whose minds have not yet been fully dispossessed or colonised, that are in a privileged position to make visible the invisible oppositional categories that they are the custodians of (Shiva, 1994).

They must therefore enter the mainstream not only as victims, but also as leaders in creating the new intellectual ecological paradigms, as the ‘wounded healers’ (in Howard Richard’s usage, Richards, 1995). Just as ecological recovery begins from centres of natural diversity, which are gene pools, Global South women and peasants who have been ‘left out’ of the processes of maldevelopment, are today acting as intellectual gene pools of ecological categories of thought and action. Their voices are the voices of liberation and transformation, which provide new categories of thought and new exploratory directions as they tackle their domination and their liberation in the struggle for life.

IKS implies a fuller development of ‘Cognitive Praxis’ between the local and the global, the interface between sustainable development and human security, between the African Renaissance and the learning society (Eyerman & Jamison, 1991). We also need to revisit the understanding of the data-information-knowledge-wisdom spectrum and how this understanding impacts, or is impacted upon by, the notion of IKS as well as human rights and cognitive justice (human dignity imperatives). The field draws attention to the ethics and responsibility for formal knowledge practices including scientific research, poverty alleviation, and sustainable human development as well as reforming and/or innovating within the Intellectual Property system. It also impels a revisiting of the idea of inclusivity in national innovation systems, demanding globalisation with a human face.

The dialogue implicit in IKS initiatives is therefore about developing a mutually enriching sharing that encompasses transformation in the worldviews and ethics of humankind. It aims at the forward-looking liberation of substance and a shared paradigm shift. This is not a return to some golden age, but a transformation to new futures of a different kind; with a cognitive praxis that underpins negotiations with stakeholders across the knowledge spectrum (Fatnowna & Pickett, 2002). It is about creating a third interstitial space in which knowledge can be reframed and a social organisation of trust can be negotiated – a new social contract for an expanded citizenship: an alternative project of globalisation!

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