



**BULLETIN DES SEANCES
MEDEDELINGEN DER ZITTINGEN**

55 (3)

**ACADEMIE ROYALE
DES SCIENCES D'OUTRE-MER**

Sous la Haute Protection du Roi

**KONINKLIJKE ACADEMIE
VOOR OVERZEESSE WETENSCHAPPEN**

Onder de Hoge Bescherming van de Koning

AVIS AUX AUTEURS

L'Académie publie les études dont la valeur scientifique a été reconnue par la Classe intéressée.

Les textes publiés par l'Académie n'engagent que la responsabilité de leurs auteurs.

BERICHT AAN DE AUTEURS

De Academie geeft de studies uit waarvan de wetenschappelijke waarde door de betrokken Klasse erkend werd.

De teksten door de Academie gepubliceerd verbinden slechts de verantwoordelijkheid van hun auteurs.

© Royal Academy for Overseas Sciences. All rights reserved.

Abonnement 2009 (4 numéros — 4 nummers): 70,00 €

rue Defacqz 1 boîte 3
B-1000 Bruxelles (Belgique)

Defacqzstraat 1 bus 3
B-1000 Brussel (België)



**BULLETIN DES SEANCES
MEDEDELINGEN DER ZITTINGEN**

55 (3)

**ACADEMIE ROYALE
DES SCIENCES D'OUTRE-MER**

Sous la Haute Protection du Roi

**KONINKLIJKE ACADEMIE
VOOR OVERZEESE WETENSCHAPPEN**

Onder de Hoge Bescherming van de Koning

COMMUNICATIONS SCIENTIFIQUES

WETENSCHAPPELIJKE MEDEDELINGEN

EXPRESSIONS OF TRADITIONAL WISDOM

International Symposium

28.09.2007

Expressions of Traditional Wisdom: What Africa can Teach the World Today*

by

Wim VAN BINSBERGEN**

KEYWORDS. — Epistemology; Tradition; Phronesis; Africa; Intercultural.

SUMMARY. — Wisdom is initially defined (*cf.* Aristotle) as creative practical knowledge that allows one to negotiate the contradictions of human life (especially in less rule-governed domains manifesting uncertainty and incompatible multiple truths), thus accepting that human life is social and finite. The argument begins with noting (1) the resilience of wisdom as a topic in modern thought and science. Next we deal (2) with the dilemma of *expression* of wisdom: while scholarship thrives on specialist explicit language use, wisdom is often secret and risks being destroyed by expression and translation. Section (3) offsets expressions of traditional wisdom against four modes of 'tacit modern unwisdom' (in such fields as corporality, conflict regulation, the concept of mind, and myth). The four modes of tacit modern unwisdom are then contrasted (4) with African perspectives, where the human body is the recognized focus of wisdom; where conflict management stresses (at least at the local level) practical wisdom over impersonal and divisive rules; where the human mind is considered to be porous hence accessible through extrasensory means; and where, in the deep history of Anatomically Modern Humans, up to 60,000 years ago the foundations were laid for all the myth we all live by today, while also later mythological developments were to be percolated all over the world including Africa.

1. The Resilience of Wisdom as a Topic in Modern Thought and Science [1]***

In the first booming period of Western philosophy, the fourth century BCE, the analytical mind of Aristotle distinguished [2] between *sōphia σοφία*, as specialist theoretical knowledge including that of the philosopher, and *phronēsis φρόνησις*, as creative practical knowledge that allows one to negotiate the pitfalls and contradictions of human life. *Phronēsis* deals with sensitivity to life's

* Paper presented at the International Symposium "Expressions of Traditional Wisdom" (Brussels, 28 September 2007).

** Chair of Intercultural Philosophy, Philosophical Faculty, Erasmus University, Rotterdam (The Netherlands). Research Unit "Connections in African Knowledge", African Studies Centre, Leiden (The Netherlands).

*** Numbers in brackets [] refer to the notes, pp. 296-299.

problems in concrete situations – the wisdom that we also find in the widespread genre of ‘wisdom texts’. Emphasis here is on those domains of life of which we would say today that they are not tightly rule-governed — cf. WITTGENSTEIN 1967 — and thus carry considerable uncertainty, ambivalence and mutually incompatible multiple truths, thus allowing us to accept both the social nature of human life and its finitude. The concept of *phronēsis* has been influential throughout the history of Western thought and especially in the twentieth century has been reconsidered from various angles [3].

Throughout, the perspective on finitude has remained important in approaches to wisdom. Already prominent in Plato, it plays a central role in the work of Dilthey, Heidegger and Ricœur [4]. On the psychological side, Taranto, in a synthesis on the preceding decade of wisdom research, concludes — and I find this very illuminating:

[...] that factors relating to wisdom (age, experience, intelligence, knowledge, intuition, common sense, and personality) can be unified theoretically if wisdom is viewed as *the recognition of and response to human limitation*’ (TARANTO 1989, my italics; also FOWERS 2003).

MEACHAM (1983), emulating Socrates’s famous paradox, stresses another dimension of finitude in the context of wisdom: *knowing that one doesn’t know*. One and a half decade later, ARDELT (2004) in a review of the Berlin Wisdom Paradigm in psychology (with such names as Baltes, Kunzmann, Sternberg and Achenbaum), in an attempt to steer away from the latter’s expertise-centred orientation [5], makes significant additions to the Taranto position, adding compassionate love and forgiveness as aspects of wisdom. Also KRAMER (1990) speaks of the ‘primacy of affect-cognition relations’ in the conceptualisation of wisdom.

However, another major form of finitude, which so far has been understudied in the context of wisdom, is *the awareness of the finitude of one’s own and the other’s specific cultural orientation in intercultural situations, hence the awareness of plurality, incompatibility, conflict, and the need to negotiate these within a wider socio-political framework*; we shall come back to this point repeatedly.

In recent decades, there has been considerable philosophical and general-intellectual / academic effort directed at affording wisdom a more central position within philosophy, science, and modern thought in general. This heterogeneous movement can be seen as responding to a number of major developments in the North-Atlantic region and the world at large:

1.1. BEYOND THE ENLIGHTENMENT HERITAGE

The recognition that the project of the Enlightenment, with its firm belief in the liberating and world-innovating force of specialized reason, has been shattered in the wars and genocide of the North-Atlantic region in the twentieth century. These violent conflicts have further intensified, for a considerable part of the world population, a crisis of meaning already brought about by seculariza-

tion, urbanization, and scientific and technological advancement; from this crisis, time-honoured local and foreign wisdom may offer relief in a new bid for survival through spirituality (WAAIJMANS 2002, p. 335f).

1.2. GLOBALIZATION

Globalization, which after the demise of European colonialism and despite subsequent North-Atlantic claims (recently less and less convincing) of global hegemony, yet drove home (partly through such globalizing knowledge strategies as anthropology, intercultural philosophy and (however criticized, *cf.* SAID 1978) Orientalism; partly through millions of people's personal experience with intercontinental travel and migration; partly through the quest for transcontinental roots) the irreducible potential of modes of knowing (often designated as 'wisdom') outside the Western mainstream tradition of thought and science. These modes of knowing are now being recognized:

- Not just for their own intrinsic value in their original geographical context, but also
- Because they have been subjected to globalizing reformulations (one conspicuous form of such a globalizing reformulation is the appropriation of ancient 'non-Western' wisdom — especially from South and East Asia, Africa and North America — into the global New Age movement, where it is blended with selectively appropriated state-of-the-art science and technology), and particularly
- Because effective globalization has produced complex problematics concerning the co-existence and conflict of world views, religions, cultures, ethical systems, legal systems, for which North-Atlantic thought and experience (caught in an Aristotelian and Cartesian logic of insurmountable opposition and difference) does not offer ready answers, and which may only be negotiated through a combination of practical wisdom strategies (especially those aiming at the avoidance, reduction and termination of violent conflicts) from various origins. It is worth noting that scholars from all continents have contributed to this exploration [6].

1.3. NEW TECHNOLOGIES AND ANCIENT WISDOM

Globalization has inevitably brought the encounter between the technologies of developed countries, and local technologies in other parts of the world, in the agricultural, medical, organizational, and other fields. After hegemonic North-Atlantic ethnocentrism had dominated the development scene for several decades from the middle of the 20th century on; in the most recent decades the awareness has grown that, since any specific technology is part of the culture and world view of its owners, the one-sided hegemonic imposition of technology is as violent as it is ineffective, whereas a combination of imported technology with

'ancient wisdom' often stands a better chance of success — perhaps in terms of the maximizing rationality informing developed technologies but especially in terms of such ecological considerations as have come up in recent decades [7].

Remarkably, traditional wisdom not only may appear to be *complementary* to modern technology and science — it may also be argued to be based on parallel and similar modes of thought [8]. And apart from highlighting ancient local forms of competent and efficient interaction with the forces of nature, these ancient wisdom traditions must also be recognized as empowering peripheral local communities and reducing their vulnerability and dependence vis-à-vis the encroachment of a global capitalist economy and ideology [9]. However, the more typical effect in a context of globalization is destruction of traditional wisdom, and then outside researchers and local specialists may be exhorted to join hands to preserve and record local ways of knowing that may be unique in the world (BALICK 2006).

1.4. THE PSYCHOLOGY OF WISDOM

In the field of psychology, intensive work over the last few decades on such topics as personality, life span, maturity, aging (in other words, gerontology), moral reasoning, and acceptance / forgiveness of finitude including failure and death (stimulated, in part, by the progressive aging of the population of developed countries) has produced a focus on wisdom that is empirical, comparative, theoretically orientated, and conceptually highly sophisticated. Here, in the consideration of what makes a good life; what a wholesome society and future; what forms of interaction and communication are conducive to well-being and meaning; and what attitudes and skills can be identified and taught towards these goals, an extensive and exciting psychology of wisdom has come up, developing more and more to re-unite intelligence with wisdom [10]. Here there is generous attention for wisdom texts and teachings belonging to literate traditions (including world religions) from all over Eurasia [11]; spirituality; the reception of diffuse, oral wisdom traditions from all continents; the analysis of expertise and expert systems; along with the psychological discipline's habitual methods of conceptualization and theorizing, measurement and both qualitative and quantitative analysis [12].

Especially illuminating are studies in which the world's various regional traditions of wisdom are compared and contrasted [13]. Among the many remarkable findings I cite the following: the interaction of minds facilitates wisdom performance (STAUDINGER & BALTES 1996); and the narrative is a typical context for the production and transmission of wisdom (KENYON 2003) — which reminds us of the closely-knit face-to-face relations and fire-side recreation in small-scale groups, as the typical situation in which traditional wisdom is being enacted in real-life situations in historic settings. Whereas in these studies the emphasis is on the significance of wisdom for the individual, the sociologist SCHLOSS (2000) has offered an approach to wisdom as part of the integrative mechanisms of society at large (PARSONS 1949).

1.5. RECENT APPROACHMENT OF WISDOM AND PHILOSOPHY

The gradual dissociation of the empirical sciences from the domain of proper philosophy, and philosophy's concentration on questions of logical, conceptual and theoretical foundations, made that, in the course of the history of Western thought, we have tended more and more to see philosophy, in practice, as the opposite of the quest for wisdom. Perhaps we should see this as an apt illustration of the question Robert Sternberg (a leading wisdom psychologist) has sought to answer: *Why Smart People Can Be So Foolish* (STERNBERG 2004). Yet the quest for wisdom, and the encounter with the wisdom of others, has continued to inform some of the greatest minds, including de Spinoza, Leibniz, Schopenhauer, Heidegger, Levinas, and Derrida [14]. The intellectual developments, as outlined above, outside the field of philosophy proper have made that 'wisdom', far from remaining an obsolete and antiquarian topic, has become one of the main growth points of a global intellectual culture, and as such constitutes an obvious bedding for modern (or rather, post-modern) scholarship aware of its social and existential responsibilities as well as of its limitations.

It stands to reason that philosophers, in such fields as the history of philosophy, philosophical anthropology, and intercultural philosophy, have risen to this challenge, and have sought to contribute to the growing literature on wisdom by studies investigating the nature and development of the various wisdom traditions in philosophy worldwide [15], seeking to formulate philosophical foundations for wisdom psychology, for the encounter of wisdom traditions with each other and with modern science, for the interaction between cultures (or rather, the situational articulation, dissimulation, and fusion of 'cultural orientations') [16] within today's globalizing space, and for the reconstruction of meaning and practice under post-Enlightenment conditions [17]. In fact, a wisdom orientation could be argued to be implied in all of Continental philosophy, whereas Analytical philosophy, with its exclusive concentration on specific procedures by which the truth claims of a statement may be substantiated, are more in line with procedural, repetitive approaches to the construction of knowledge. In other words:

$$\frac{\text{Continental Philosophy}}{\text{Analytical Philosophy}} = \frac{\text{expressions of traditional wisdom}}{\text{academic philosophy}}$$

as if what we are dealing with here are two complementary modes of knowing which kaleidoscopically, or rather fractally, reproduce and proliferate at whatever level we approach them.

All of the above drives home the message of the topicality of traditional wisdom as an object of modern scholarship. The initiators and organizers of the present international symposium may therefore be congratulated on the relevance, the wisdom indeed, of their choice.

Meanwhile, the word wisdom is often used vainly in academic texts today, to denote, not time-honoured modes of knowing complementary to scientific knowledge, but rather, within a given North Atlantic / globalizing discipline (e.g. physics, law, econometrics) the obsolescent conventional approach of an earlier vintage. Thus, an experimental physicist may chide the 'conventional' or 'traditional' wisdom of measuring the interaction of particular particles by means of a specific experimental set-up — thus referring to intradisciplinary practices of global physics that may only be one or two decades old, and that have nothing to do with 'expressions of traditional wisdom' as understood in the context of our symposium.

While such usage of the word 'wisdom' is still transparent and neutral (although irrelevant in our present context), an extensive inspection of the enormous literature referring to wisdom also shows a usage that is far from neutral, but rather appropriative, distortive and ethnocentrically implying that the perspective from the North Atlantic is the only permissible one. This occurs when the term 'wisdom' is perfunctorily and alteringly used in order to designate representations and practices which originate from outside the Western tradition and which deviate from common-sense views of a North-Atlantic moderately educated middle class; these practices are indicated in sweeping stereotyped terms. The use of the word wisdom in such cases merely serves to smother, under a cloak of a politically correct term suggestive of respect, the implicit rejection of these alien traits. The internet, in its tendency to identity-biased nutshell formulations of dubious reliability and authority, is the typical site for such usage. Modern organizational management may develop into another such site (SMALL 2004). In these specific cases, the phrase 'expressions of traditional wisdom' refers to a quality that we ourselves imply to lack, and by that reference we are constructing ourselves by contrast with some stereotyped other. Thus, we emphatically claim not to have wisdom by ourselves, but we reserve wisdom (euphemistically, again) as an attribute of that which we are not and do not wish to be. Such contrastive wisdom constructing, by negation, our own self-image then is likely to turn out as: knowledge that is obsolete, local, essentially invalid and incapable of generalization. It is typically the kind of knowledge non-specialists in African affairs, and non-Africans, attribute to Africans, *in a deceptive bid at contrastive self-construction as more rational, universalist and objective non-Africans*. Understandably, therefore, that among champions of secular, democratic modernity 'wisdom' may become a pejorative term implying retarded divisiveness (JACOBY 1994).

Our initial overview of approaches to traditional wisdom has brought up a number of interesting and promising ideas and perspectives. In our present, extremely limited scope (but see van Binsbergen, in press) we must suppress the urge to go and search for specific expressions of traditional wisdom in the many literate and illiterate traditions represented at the Colloquium reflected in the present proceedings. Let us now try to penetrate a little deeper into this fascinating but difficult matter.

2. The Dilemma of Expression in Wisdom

It is important to stress that our international symposium has been about *expressions* of traditional wisdom, and not about traditional wisdom as such. Given our own reliance on method in the production of our academic scholarship, traditional wisdom can only come within the orbit of our investigations if it does not remain implicit, *not* a totally unrevealed secret, *not* a totally tacit assumption, but if it is laid down, in whatever oblique and distorted form, in an expression that has some material manifestation: for instance in the sound waves carrying the spoken words of our living informants; or the clay tablets, bamboo leaves, papyrus sheets, or knotted *quippus* of the texts at our disposal; or the stone reliefs, rock paintings or masquerades that may express traditional wisdom iconographically. Our subject matter in the present symposium is well defined in so far as, without such *expressions*, we would scarcely be able to make scholarly pronouncements on traditional wisdom.

Thanks to the generosity of the organizing institutions, our symposium could meet in a splendid palatial hall in Brussels as the heart of the new Europe. Since this is the former abode of William of Orange, descendant of the sixteenth-century founder of the Dutch state of which I am a citizen, our proverbial Dutch arrogance is discretely reminded of the fact that our Father of the Nation was merely a senior official at the Brussels court. No striking expressions of traditional wisdom are attributed to him, and his nickname, 'the Taciturn', suggests that he was alive to the traditional wisdom that 'speech is silver but silence is golden' — later somehow paraphrased in Wittgenstein's

'Wovon man nicht sprechen kann darüber muss man schweigen' (WITTGENSTEIN 1964, section 115, § 7).

Here we must acknowledge the problematic status of 'expression'. Many wisdom traditions, from all parts of the world and from all documented periods, have *restricted, veiled, or downright prohibited expression*, and have tended to organize themselves around the secret — even if in itself meaningless and void — that binds and unites the initiated happy few (DE JONG 2007). As far as the history of Western specialist thought is concerned, ever since the pre-Socratics, many philosophers have realized that language (even though allowing us to name, organise and lend meaning to the world) at the same time *obscures* Being, smothering it under a deceptive layer of enunciation that may well be the opposite of wisdom. The Chinese counterpart of this insight is in the famous second line of the opening chapter of *Dao De Djing* 道德經:

名可名 非常名 *míng kě míng fēi cháng míng* 'naming that fixes the reference is not true naming'. [18]

Thus we meet one particular awareness of finitude as the organizing principle of wisdom: *the finitude of language*, both in its limited capacity to express essen-

tials of life and the world, and in the multiplicity of human languages, which makes for grossly imperfect transmissions from one language to the other.

Perhaps my best, wisest option would be simply to shut up here. And I would be inclined to do just that, if the scholarship in whose collective pursuit we are in the context of this international symposium were coterminous with traditional wisdom — but there are indications that it is *not*. The interplay between modern scholarship and traditional wisdom is complex and paradoxical, as my entire argument goes to show.

3. 'Tacit Modern Unwisdom'...

Further aspects of the meaning and heuristic uses of the phrase 'expressions of traditional wisdom?' may also be captured, somewhat flippantly, if we take the multiple opposite of 'expressions of traditional wisdom', which would be something like '*tacit* (taken for granted — as opposed to explicitly expressed and argued) *modern* (as opposed to traditional) *unwisdom* (as opposed to wisdom)'. It is not difficult to give a few examples (albeit, admittedly subjective, even tendentious) of such tacit modern unwisdom. I will quickly pass over such obviously spurious modern myths as that of the market and of commodification or commoditization (according to which all is merchandise), and that of rational maximizing, especially as far as the attainment of material goals is concerned [19]; and the myth of North Atlantic cultural superiority and independent origin — recently exposed in the *Black Athena* debate and its aftermath. [20] Let me merely outline four examples of 'tacit modern unwisdom', which in a later section will then be contrasted, one by one, with African traditional wisdom:

—The immensely alienating myth of *the human body as basically an industrial product* [21], *i.e.*

- Uniform and standardized (hence advertisements' emphasis on young, healthy and perfect);
- Modular in its composition, so that body parts may be modified, overhauled and replaced at will;
- Saturated (ever since the times of de la Mettrie (1747 / 1999) with the imagery of the machine, so that the same language ('check-up', 'engine', 'plumbing') may be used for our body and our motor vehicle (which is said to have its own 'body').

—The myth of *the fundamental closedness of the human person*:

- Who thus is depicted as in the first place an individual, rather than a member of a group;
- Whose mind, by an inveterate axiom of modernist science, is to be considered a closed system impervious to other minds except, indirectly, through conscious reflection upon sense impressions (including those pro-

duced by speech) that may be taken to express the movements of other minds (DENNETT 1991)

- The myth (going back to Aristotle [22], as far as the Western tradition is concerned) of *the excluded third and of logical consistency*. In many ways this allows us to respond adequately and pragmatically in our interaction with the non-human world (which therefore can be argued to display, most of the time, and at the meso-level [23] of our conscious human interaction with it, a structure similar to that of our binary logic. Yet we cannot close our eyes to the fact that, in the interaction between human individuals and between human groups, the same logic incessantly creates intransigent positions of recognized and emphasized difference which cannot come to an agreement since both sides, by their own logic, are justified to consider themselves right, yet their respective truths are mutually incompatible and in conflict. The main conflicts in our globalizing world of today (*e.g.* those between North-Atlantic military capitalism on the one hand, and militant Islam on the other hand, as rival paths through modernity; those between economic short-term maximizing globalism and a future-orientated ecological responsibility; those between consumption on the one hand, and integrity and global solidarity on the other hand) remind us of the potentially paralyzing and destructive implication of such consistency. In Western thought it is only recently that such poststructuralist concepts as *différance* and *differend* [24] and the elaboration of ternary and multi-value logics have created a context where we can think beyond binary logic.
- Typically but paradoxically, again, in this discussion of ‘tacit modern unwisdom’ we have taken the word *myth* itself in the modernist sense of: ‘widely held collective representation that yet constitutes an untruth’. Usually such a use of the word ‘myth’ carries the implication that specific modern science is available to explode that myth — which implies (contentiously) that in all situations modern science is the source and the touchstone of truth.

These are some of the themes of tacit, modern unwisdom against which we can begin to appreciate the wisdom of earlier times and different continents. Such appreciation, of course, is not possible without an exploration of the possibility of an intercultural transmission of wisdom, within and outside an academic context; nor without an explicitly epistemological perspective, in which wisdom as a particular mode of knowing orientated to practical life with its comparatively low level of explicit verbalisation, its contradictions, its relative paucity of effective rules, and its abundance of situations containing multiple truths that are mutually exclusive, may be contrasted with scientific knowledge that is usually based on standardized, repetitively applied, knowledge-generating procedures revolving on conditional statements of the ‘if...then’ format. Regrettably, however, also such explorations are outside our present scope (*cf.* VAN BINSBERGEN 2007). I will not be able to indicate how the struggle with these

questions has informed my academic life, first as an empirical social scientist and historian, then the last decade as an intercultural philosopher. However, in order to indicate the general direction of my thought, let us return to my four examples of 'tacit modern unwisdom', and reconsider them in the light of African expressions of traditional wisdom.

4. Four Examples of Viable African Traditional Wisdom with Potentially Global Applicability

4.1. THE HUMAN BODY

Much traditional wisdom in Africa is concentrated on the human body [25], whose life cycle and fertility are celebrated. Thus death may become the highest, and with all its sense of bereavement yet essentially festive, culmination of life; and puberty rites (especially female ones) appear as a vital resource of meaning spilling over to the other fields of the entire culture. Symbolic parallelism between the body and the land, and between the body and the structure of socio-political organization, makes macrocosmic phenomena understandable at a human scale. Frequently the body is marked and covered with substances derived from other bodies, from surrounding nature, and from humans' local artefact production — yet the celebration of the undressed, and of the cleaned and cleansed body is an implicit articulation of purity and trans-moral innocence in the face of the continuity of life force (locally often conceptualized as the ancestors, or the spirits of the wilds).

The movement of the body in space and time confirms dance and music as the most obvious way of situating the individual in its social and cosmological position, and of re-finding that position after illness, crisis and bereavement. Orifices are points of transformation between the cosmological, the social and the individual, articulating life as a constant flow of life force in and out the human individual, and between individuals — *e.g.* in a sexual context. Especially healing practices reconstitute the connections between world view, social organization, and body; they not only redress and restore, but effectively *create* the human individual. Most importantly, it is the body that situates individuals in a chain of continuity across generations, whose perpetuation is implied to be the true meaning of life.

The African traditional wisdom of the body, expressed and mobilized in every ritual and every act of therapy, contrasts forcefully and convincingly with the alienating body practices of the North-Atlantic region today, as evoked in section 3 above; as well as with the time-honoured bodily conceptions and practices (often far more restrictive and rigid than their African counterparts) of the world religions (Hinduism, Buddhism, Judaism, Christianity, Islam, etc.) which have become increasingly dominant in the Old World over the past three millennia. In African systems of corporality we find a wisdom which not only has remained

vitality important to African people today, but which has also proved to be capable of reformulation into a global format, and of being globally transmitted in the form of African-inspired musical practices, dancing, healing, and sexual practices; ever renewed and increasingly amalgamated with globalizing practices from elsewhere, African corporeal wisdom continues to conquer the world.

4.2. CONFLICT REGULATION

African local-level practices of conflict regulation constitute an important expression of traditional wisdom, to be shared with the wider world. The relatively old and exhausted state of many African soils and ecosystems has been an important factor in the vulnerable and ephemeral nature that has been a recurrent feature of African state systems both in the past millennia and today, well after the end of colonial rule. Therefore, the grand logic of formal organization (elsewhere the hub of political and economic expansion and innovation in the last few millennia and especially since the 19th century CE) has often remained an imported dream in Africa — repeatedly turned nightmare in postcolonial-state contexts. But on the basis of such principles as the complementarity of oppositions, and the awareness of sharing a fundamental humanity in the face of which *total* social exclusion of particular individuals and groups is literally unthinkable, African small-scale communities have managed to persist and to renew themselves by virtue of a particularly effective mode of conflict management.

African local-level traditions of conflict resolution are typically based on the recognition of plural truth, of plural positions of integrity, and the symbolically creative invention of real or pretended common grounds that would allow the parties involved to yield and be reconciled — for if two opponents are both right then there can be no logical road to reconciliation except via the ternary logic of sleight-of-hand. These mechanisms have, however, turned out to be surprisingly ineffective at the national and international level (although post-apartheid South Africa may yet prove us wrong on this point), and as a result Africa has stood out, during the last half century, as a place of state collapse, civil war and genocide. Yet great African statesmen of the last few decades, such as Julius Nyerere, Nelson Mandela, Desmond Tutu, and Kofi Annan, seem to have been able to effectively transmit some of this traditional wisdom of conflict regulation to a level beyond the local community.

A closer, comparative and theoretical study [26] of these African modes of conflict regulation as forms of traditional wisdom may help to reformulate them into a globally receptive format, which may also prove more effective at the national and international level in Africa.

4.3. THE ACCESSIBLE INDIVIDUAL MIND

As a third example of African traditional wisdom I would cite African elements of a philosophy of mind, such as articulated by Gyekye and Wiredu, for

instance, in their rendering of the ontology of the Akan ethnic and linguistic cluster in West Africa [27]. In the Western philosophical tradition, the philosophy of mind has faced aporias for a number of reasons:

- The heritage of Platonic / early Christian / Cartesian body-mind dualism (critiqued by, for instance, RYLE 1949);
- Well-known pitfalls of the 'other minds' problem [28];
- The Western stress on the concept of the individual, undivided self — conceived not as a socio-cultural construct peculiar to a particular time and place, but as a self-evident given of the human condition in general — as the central cosmological and ontological entity.

The latter claims that it is impossible for minds to communicate directly with one another, leaving only the indirect transmission of mental contents via their expression material signs (including speech) received through the senses. Such an individualistic and atomistic conception of the mind, whilst a basic tenet underlying most world religions today, leads us into great difficulty, since the actual direct communication between minds (as implied in the ideas of telepathy and precognition) [29] is simply an everyday experience to many people from all cultural orientations and all times. Anthropologists working on African divination and trance have claimed similar phenomena which seem to go against the dominant, 'Sceptical' natural-science paradigms of today. It must be emphasized that there are huge epistemological and methodological difficulties inherent in such claims (OLIVIER DE SARDAN 1988).

On the other hand, contrary to what most modernist Sceptics, and their lay parrots, seem to realize, the theory of *non-locality as an aspect of main-stream quantum mechanics* does provide an excellent theoretical basis for the possibility of such paranormal phenomena [30]. Since such insights, in locally encoded cultural forms, are common-place in many African contexts but repressed from public circulation (especially among non-specialists) in the post-Enlightenment North-Atlantic region, paranormal phenomena may be argued to constitute a domain where the truth claims of African wisdom are not just valid within the local African space of culturally created self-evidence, but may deserve to be globally mediated as a statement of a transcultural truth, and hence superior to current collective representations in the West.

Yet most anthropologists with such experiences hide in psychological rationalizations that make the diviner merely a skilful manipulator of plain sensory information and an articulator of, essentially widely circulating, village rumour. Of course, there is no denying the ordinary psychology of the interpersonal information flow, by virtue of which clients often sensorily transmit information to diviner-healers without the client being aware of this, thus allowing the diviner-healer to spuriously claim paranormal sources of knowledge. However, my own two decades as an African diviner have absolutely convinced me that these normal processes of communication and impression management, coupled with the

trance-like techniques of trans-individual sensitivity that one learns as an African wisdom specialist, create fertile grounds also for non-sensory forms of knowledge transmission. Such transmission can hardly be explained by the publicly dominant, global / North-Atlantic scientific ontology, but is eminently accounted for in the world view of African wisdom.

In the Southern African divinatory idiom, extrasensory production of what appears to be valid knowledge is explained by the (in that cultural context) self-evident intercession of possessing or guiding ancestors. In the Akan version, by contrast, individual minds are, as forms of what is locally called *sunsum*, considered to be semi-autonomously subsumed in a universal World Soul, *okra*, and it is this interconnectedness which eminently accounts for telepathy, precognition and veridical divination. Of course, the idea of the World Soul is not limited to African world views as recorded in historical times. It is found in the literate, specialist traditions of the East [31] and the West [32]. Considerable correspondences between Akan and classical Greek culture have been pointed out (GRAVES 1964, pp. I, 22f), and it is not impossible that one is indebted to the other, or that both partially derive from a common source (ARNAIZ-VILLENA *et al.* 2001). But whereas in the Western tradition the idea of the World Soul has become a specialist and minority idea without vital anchorage in popular collective representations, in West Africa it has been an expression of widely held traditional wisdom as recorded in the 19th and 20th centuries CE.

4.4. MYTHOLOGY

My final example of expressions of African traditional wisdom derives from a field on which I have concentrated over the last few years, comparative mythology, in a project whose rationale was to establish the empirical basis for my thesis of the fundamental cultural unity of humankind, in particular of Anatomically Modern Humans — a complement therefore to my hyperbolically challenging adage ‘cultures do not exist’ [33]. Here I will concentrate, not on meaning and content, but on formal processes in the global history of mythology, which spans at least 200,000 years. Myths are expressions of traditional wisdom in the sense that they articulate and support a culture’s view of the world and of man; offering aetiological explanation of specific natural phenomena, human institutions, and names; and providing models for emulation and edification in real life.

Many expressions of traditional wisdom are in the format of myth, not in the modernist pejorative sense as collective representation constituting untruth, but as collective representation in narrative format, *tout court* (VAN BINSBERGEN 2003d).

Although Ancient Egypt, one of the earliest, most powerful and enduring civilizations of the ancient world, was located in Africa and displayed many African traits, and although the African continent contained major sites of early Christianity and of medieval Islam, yet prior to the 19th century CE writing

remained peripheral to most of African life, and African cultures have excelled in orality including story-telling. Anatomically Modern Humans emerged in Africa c. 200,000 years ago, and only began to trickle to other continents c. 80,000 years ago in the context of the Out-of-Africa Exodus. Genetically and culturally the African continent still contains some identifiable traces of the long pre-Exodus period. Such traces are also to be found everywhere outside Africa — it is these traces that allowed us to discover the Out-of-Africa Exodus in the first place.

So before we fall into the trap of hegemonically inventing Africa (MUDIMBE 1988) as the ultimate domain of primordiality (Conrad's *Heart of darkness*, as Africa has so often appeared in North-Atlantic colonial and postcolonial stereotyping), let us consider the following points which are particularly important for an appreciation of the global importance of the traditional wisdom contained in myths:

- While we must acknowledge the possibility of parallel invention due to the common structure of the mind of Anatomically Modern Humans, and recently the converging effects of cultural globalization, still an important partial explanation of the very many universals and near-universals of human cultures worldwide (WIREDU 1990, 1996; BROWN 1991; ORUKA 1990) is the following: these universals may be seen as elements (surprisingly constant and persistent over tens of thousands of years, as if deeply programmed into human culture) of our common cultural heritage long pioneered inside Africa before the Out-of-Africa Exodus, and subsequently spread all over the globe. I have called this heritage 'Pandora's Box', freeing the image from the negative connotations it has had since Hesiod [34] and going back to the original meaning of the Greek name Pandora, 'the All-giving'. Considering the incomparable importance of narrative for creating and perpetuating human groups, and acknowledging articulate language as one of Anatomically Modern Humans' principal distinctive traits, Pandora's Box must have contained a basic mythological repertoire which the Out-of-Africa Exodus caused to spread all over the world, and which painstaking comparative research is now beginning to reconstruct — around such themes as the moon, the trickster, the fire, the rainbow snake, the tree of life, the reptile erroneously announcing death, etc.
- However, much of the development of world mythology took place after the Out-of-Africa Exodus, in the course of tens of millennia of ecological, cultural and cosmological development outside Africa, especially in Asia. Here, as transformations and innovations upon the mythological contents of Pandora's Box, and also linked, in identifiable ways, with the emergence of new modes of production and new linguistic macro-families, some of the major cosmologico-mythological themes emerged, such as (c. 30,000 years ago in Western Asia) the cosmogony based on the separation of Land and

Water (with the Flood as cataclysmic annihilation of that separation, requiring world order to be restored by a second creation); and the alternative and somewhat later cosmogony revolving on the separation of Heaven and Earth [35], which made possible the idea of the demiurge and other forms of re-connection (tree, mountain, bird, pyramid, ladder, stairway, rainbow, demiurge, shaman, king, twin) between Heaven and Earth — which have constituted central themes in theological and iconographic repertoire of civilizations from the Neolithic onwards. Much of the familiar mythological repertoire of Eurasia (faintly echoed in the Americas, more clearly so in recently populated Oceania) emerged in this phase along lines that we are now beginning to make out.

- As these themes proliferated, mainly in Asia, a Back-into-Africa population movement produced what recent genetic research has discovered to be a feedback migration from Central and West Asia into Africa, from *c.* 15,000 ago [36], which on its way also had a major impact on Europe. In the process, relatively new Asian narrative themes entered Africa and dominantly installed themselves onto the pre-Exodus mythologies that had continued to transform and innovate there. As a result, sub-Saharan Africa now has the paradoxical combination of relatively new mythologies (largely continuous with those of Eurasia) told by people with relatively ancient genes.

So much for the essentialization and alterization, in the hands of scholars, of the traditional wisdom as expressed in African narratives. The North-Atlantic culture (which in recent centuries has largely informed the scholar's perspective) and the cultures of sub-Saharan Africa turn out to be relatively closely related and to share highly important prehistoric substrates. What appears as nostalgic reminders of what makes the West incomparably different (and often, by implication, allows the inhabitants of the North Atlantic to construct themselves as culturally superior), is in fact part of a worldwide process of cultural history, in which the places of initiative and the flows of cultural indebtedness have shifted, as they will in the future, and in which a common repertoire of meaning and image is being managed by the whole of humankind — in myriad fragmented, transformed and innovated yet more or less continuous, local forms, that were subjected to localizing transformation when travelling beyond their initial cultural bedding, and whose underlying continuity we could scarcely have suspected until, in the most recent times, globalization created a framework for the recognition of pan-human difference in unity.

5. Conclusion

Our argument has oscillated between two extreme positions, both of them wrong if taken literally and in isolation, yet in combination suggestive of an ulterior truth. On the one hand, we are tempted to declare that other people's wisdom

is largely in the eye of the beholder as equipped with his distinctive cultural orientation; on the other hand, all wisdom seems to flow from a common source, which, as Anatomically Modern Humans belonging to widely divergent cultural orientations, may each call by different names yet we are equipped to recognize them as, perhaps, closeness to the essence of Being.

Modern intercontinental scholarship is one aspect of such globalization. It is our task, in the context of this international symposium, to respectfully record, interpret, compare, and recirculate in a globalizing, more or less accessible format with various degrees of specialist scholarly rigour, and thus celebrate both the beauty and wisdom of individual local human cultural products, and the underlying connections that bring us all together.

ACKNOWLEDGMENTS

I wish to express my sincere thanks to the organizing institutions, for the honour accorded to me as keynote speaker. In particular I wish to extend my gratitude to the Scientific Committee (and foremost its Africanist member Mrs Dr Bouttiaux) initiating and realizing this Symposium; to Professor Sturtewagen, who as President of the Royal Academy for Overseas Sciences chaired the opening session; to Mrs Professor Swinne, the Academy's Permanent Secretary; and to Mrs Bulanza, the Academy's administrative officer. I also wish to acknowledge the inspiration from my colleagues in the Philosophical Faculty, Erasmus University, Rotterdam, and the continued support from the African Studies Centre (especially the Library Department directed by Jos Damen) for my current research into 'Connections in African knowledge', of which the present paper is a product. I am grateful to Professor René Devisch for his useful comments on an earlier version. Finally, I wish to thank the participants for their response to this paper, particularly Professors Baetens Beardsmore and Weidtmann.

NOTES

- [1] Quotations of words and sentences from other than modern European languages in this paper preferably include the original script and its transliteration, not in order to pretend a philological expertise I do not have, but in order to affirm the right of the original expression, in its own local cultural form, to take precedence over the transformative appropriation in a modern North-Atlantic language; and also to drive home the fact (of crucial importance from a point of view of intercultural philosophy) that our scholarly encounter with foreign wisdom is far from transparent and tends to be filtered through multiple layers of translation and interpretation. However, the conventions of modern scholarship are not conducive to consistency where these good intentions are concerned – for instance, I have had to confine myself to conventional English renderings of the names of Ancient Greek, biblical, and Ancient Egyptian proper names.
- [2] *Eth. Nicom.*, 1140a and following.
- [3] Modern treatments of phronesis include GADAMER 1960, MACINTYRE 1981, BERNASCONI 1989, FLYVBJERG 1993, GALLAGHER 1997, NOEL 1999, practical studies

- of phronesis in a concrete modern setting are HALVERSON 2004, JAMAL 2004. Also *cf.* in our Symposium, the stimulating paper by KOUTSOUMPOS & ZHUANG (2007).
- [4] *Cf.* HYLAND 1995, DE MUL 1993, HEIDEGGER 1983, RICEUR 1960.
- [5] *Cf.* HORN & MASUNAGA 2000. At our Symposium, the expertise aspect of wisdom was articulated by Professor Baetens Beardmore in response to my keynote address, *i.e.* an earlier version of the present argument.
- [6] *Cf.* TAKAHASHI 2000 (who stresses, for the ancient wisdom literature from Western Eurasia, analytical ability, as contrasted for more inclusive and synthetic orientation in South and East Asia — a similar distinction is made by GARCIA & PELECHANO 2004 — and who highlights the themes of void and co-dependence as central to the Asian tradition). There is no consensus in the literature as to the relation between scientific or intellectual knowledge versus wisdom-related knowledge. COOMARASWAMY 1943 and ARDELT 2000 rely on such a distinction. However, STRIBOS 1995 sees the two forms of knowledge converge from a systems perspective, while BETHE 1968 calls science 'a road to wisdom' (thus also MAXWELL 1984; also recent Chinese philosophers have been interested in the transformation of knowledge into wisdom: GUORONG 2002) For a Neo-Thomist approach to the relation between science and wisdom, *cf.* MARITAIN 1940.
- [7] *Cf.* AGARWAL & NARAIN 1997, SEN 1999, SAMOFF *et al.* 2001, BERKES *et al.* 2000, HAVERKORT & HIEMSTRA 1999. Indian scholars have been particularly prominent in exploring these possibilities. Here we are touching on the discussions, during the last quarter of a century, of 'indigenous knowledge systems', which however our present scope does not allow us to go into.
- [8] *Cf.* JIANG 2005, JONES & CULLINEY 1998, CAPRA 1978, ZUKAV 1979.
- [9] *Cf.* QUANCHI 2004.
- [10] BLANCHARD-FIELDS *et al.* 1987, KUNZMANN & BALTES 2003.
- [11] For Islam, *e.g.* CHOUDHURY 2001, LEWIN 2000 (Sufism), and the work of Seyyed Hossein Nasr, *cf.*; NORTON 2004, MASSIGNON 1922, FAHD 1966, ULLMAN 1972, BAKHTIAR 1991; SHAH 1971; CHITTICK 1989; for Buddhism: LEVITT 1999 (Tibet), EPSTEIN 1985, VOKEY 1999, HUMPHREYS 1987, for a Vedantic perspective, *cf.* ATCHLEY 1993; YANG 2001 studies wisdom concepts in Taiwan, where Taoism and Confucianism have remained important orientations. For references to Judaism and Christianity: see notes below.
- [12] *Cf.* ERIKSON 1963, 1982; STEMBERG 1990; ARDELT 2004; BALTES & FREUND 2003; BALTES *et al.* 1990, 2002; HANNA & OTTENS 1995; KRAMER 2000; MAERCKER *et al.* 1998; MASLOW 1968, 1971; PASUPATHI & STAUDINGER 2001; BROWN 2000a. I have considerably benefitted from the extensive bibliography of TROWBRIDGE 2005.
- [13] ASSMANN 1994, TAKAHASHI & BORDIA 2000.
- [14] General: HADOT 1995. Spinoza: DE DIJN 1996 — despite de Spinoza's banishment from the Jewish religious community, Hebrew wisdom was an important influence on this philosopher. LEIBNIZ (1994) was fascinated by Chinese Taoist thought 教 / 家 as mediated by the Jesuit fathers resident in China. The Indian Vedic writings, notably the Upanishads उपनिषद्, had reputedly great influence on Schopenhauer (*e.g.* JANAWAY 1999, p. 12). Heidegger's great inspiration was the Pre-Socratic 'wisdom' philosopher Parmenides — HEIDEGGER 1982, 1977, *passim*. LEVINAS (1976) was considerably inspired, again, by biblical wisdom. This also applies to Derrida (1999, 1996).

- [15] For China: WEIPING 2005; for the European middle ages, cf. CELANO 1995, HOPKINS 1996 (on Cusanus); European Renaissance: RICE 1958; Early Modern Europe specifically Hegel: ROSEN 2000;
- [16] cf. VAN BINSBERGEN 2003a, ch. 15: 'Cultures do not exist', pp. 459-522.
- [17] Cf. DE MUL 1993, implicitly on the wisdom relevance of Dilthey; GADAMER 1960; KEKES 1983, 1995; MANHEIMER 1992; CURNOW 1999; GEYER 1989; GODLOVITCH 1981; HARTSHORNE 1987; JACOBS 1989; KUCZYNSKI 2001; MARQUARD 1989; MAXWELL 1984, 2004; NIELSEN 1993; SMITH 1998.
- [18] Of the numerous editions of this text I only mention the up-to-date AMES & HALL 2003.
- [19] Cf. VAN BINSBERGEN & GESCHIERE 2005, BOWLES & GINTIS 1993, CRAMER 2002.
- [20] Bernal 1987, 1991; Lefkowitz & Rogers 1996; van Binsbergen 1997.
- [21] Smith et al. 2004; Sharp 2000; Martin 2006.
- [22] Metaphysics IV. 4, 1006b and following; IV. 7, 1011b.
- [23] I take the meso-level of phenomena to be that of our normal Galilei-Newton world, at the order of magnitude of the human body: 10^0 (= 1) metres. At very much higher and very much lower orders of magnitude (galaxies, elementary particles), the self-evidences of our Galilei-Newton world dissolve, and the paradoxes and wonders of the theory of relativity and quantum mechanics replace the (appearance of the) transparent logical structure and the object-subject distinction of the meso-level world, bringing out the restrictive boundary conditions of the latter.
- [24] Cf. DERRIDA 1967, 1972; LYOTARD 1983.
- [25] From the very extensive literature on African corporality I mention: NGUBANE 1977; KUBIK 1977; DEVISCH 1985, 1990, 1995, 2000; RASING 2001; JACOBSON-WIDDING 1991; MAW & PICTON 1992; FERNANDEZ 1990; KIMMERLE 1989; FEDRY 1976; TURNER 1969; DE BOECK 1995.
- [26] Cf. NORBECK 1963, GLUCKMAN 1955, SIMONSE 1992, ASSEFA 1996, NGWANE 1996, VAN BINSBERGEN 2003c.
- [27] Cf. WIREDU & GYEKYE 1992, GYEKYE 1995, WIREDU 1980. The accounts of these two philosophers of the Akan system do not completely match. Cf. MULLER 2002.
- [28] BILGRAMI 1993 and references cited there.
- [29] Philosophical problems of (the claim of the existence of) paranormal phenomena are discussed in, e.g., EISENBUD 1982, BRIER 1974, MUNDLE 1964, GRIM 1990. I discuss these themes in connection with African divinatory practices in VAN BINSBERGEN 2003b. An authoritative synthetic overview of the empirical evidence for paranormal phenomena, in the face of ill-informed and entrenched modern Sceptics movement, is RADIN 1997, with extensive bibliography. Dean Radin holds a PhD in physics; one of his own contributions to this field was that, together with R. D. Nelson, he managed to have an authoritative, mainstream physics journal publish a discussion of nearly a thousand cases of consciousness-related anomalies in random physical systems, e.g. computers demonstrably influenced by human thought (RADIN & NELSON 1989).
- [30] Cf. EINSTEIN *et al.* 1931, 1935; BELL 1964; WALKER 1977; BOHM & HILEY 1993.
- [31] The idea of the World Soul is associated with the concept of Ātman आत्म / Brahman ब्रह्म. Cf. in South Asian Advaita Vedanta अद्वैत वेदान्त philosophy as formulated by Ādi Śankara आदि शङ्कर (c. 800 CE).

- [32] In the Western philosophical tradition the idea of the World Soul is associated with such names as Heraclitus (e.g. fragment D. 22, A, 17), Plato (Timaeus 29f), the Stoics, Plotinus, the early St Augustine, the alchemical tradition from Late Antiquity onward, to re-surface with Spinoza, Leibniz, Newton, Lessing, the Theosophical movement around 1900, and (on the borderland between philosophy, the life sciences and New Age) most recently with Lovelock's Gaia hypothesis.
- [33] VAN BINSBERGEN 2006a, 2006b; the adage is the title of 2003d.
- [34] Hesiod, *Opera et Dies*, pp. 42-105.
- [35] In our Symposium, Hilde Link (2007) referred to the stage preceding such separation in the narrative, the tight embrace of heaven and earth, in South Asia and in Ambon, Indonesia. This *mytheme* has extensive further attestations (e.g. in Nigeria, Oceania, and Ancient Greece) which, in the light of the theory presented here, must be considered historically related.
- [36] Cf. HAMMER *et al.* 1998, CRUCIANI 2002, COIA 2005.

REFERENCES

- AGARWAL, A. & NARAIN, S. 1997. Dying wisdom. The decline and revival of traditional water harvesting systems in India. — *Ecologist*, 27(3): 112-116.
- ASSEFA, H. 1996. Peace and reconciliation as a paradigm: A philosophy of peace and its implications for conflict, governance and economic growth in Africa. — In: ASSEFA, H. & WACHIRA, G. (eds.), *Peacemaking and democratisation in Africa: Theoretical perspectives and church initiatives*. Nairobi, East African Educational Publishers, pp. 42-71.
- ASSMANN, A. 1994. Wholesome knowledge: Concepts of wisdom in a historical and cross-cultural perspective. — In: FEATHERMAN, D. L., LERNER, R. M. & PERLMUTTER, M. (eds.), *Life-span development and behavior*, Hillsdale (N.J.), Erlbaum, 12: 187-224.
- ATCHLEY, R. C. 1993. Spiritual development and wisdom: A Vedantic perspective. — In: KASTENBAUM, R. (ed.), *Encyclopedia of adult development*. Phoenix (AZ), Oryx, pp. 479-483.
- BAKHTIAR, L. 1991 [1976]. *Sufi: Expressions of the mystic quest*. — London, Thames & Hudson.
- BALICK, M.J. 2006. Ethnomedicine ancient wisdom and modern science. — *Explore: The Journal of Science and Healing*, 2(3): 238-248.
- BALTES, P. B., SMITH, J., STAUDINGER, U. M. & SOWARKA, D. 1990. Wisdom: One facet of successful aging? — In: PERLMUTTER, M. (ed.), *Late-life potential*. Washington (DC), Gerontological Society of America, pp. 63-81.
- BELL, J. S. 1964. On the Einstein-Podolsky-Rosen paradox. — *Physics*, 1: 195-200.
- BERNAL, M. 1987. *Black Athena: The Afroasiatic roots of classical civilization. Vol. I: The fabrication of Ancient Greece 1787-1987*. — London, Free Association Books; New Brunswick, Rutgers University Press.
- BERNAL, M. 1991. *Black Athena: The Afro-Asiatic roots of classical civilization. Vol. II: The archaeological and documentary evidence*. — London, Free Association Books; New Brunswick, Rutgers University Press.
- BERNASCONI, R. 1989. Heidegger's destruction of phronesis. — *Southern Journal of Philosophy*, 28 (suppl.): 127-147.

- BETHE, C.W. 1968. Science: A road to wisdom (transl. from Dutch). — Dordrecht, Riedel.
- BILGRAMI, A. 1993 [1992]. Other minds. — In: DANCY, J. & SOSA, E. (eds.), *A companion to epistemology*. Oxford/ Cambridge (MA), Blackwell, pp. 317-323.
- BLANCHARD-FIELDS, F., BRANNAN, J. R. & CAMP, C. J. 1987. Alternative conceptions of wisdom: An onion-peeling exercise. — *Educational Gerontology*, **13**(6): 497-503.
- BOHM, D. & HILEY, B. J. 1993. The undivided universe: An ontological interpretation of quantum theory. — London, Routledge.
- BOWLES, S. & GINTIS, H. 1993. The revenge of *Homo Economicus*: Contested exchange and the revival of political economy. — *The Journal of Economic Perspectives*, **7**(1): 83-102.
- BRIER, B. 1974. Precognition and the philosophy of science: An essay on backward causation. — New York, Humanities Press.
- BROWN, D. E. 1991. Human universals. — New York, McGraw-Hill.
- CAPRA, F. 1978 [1975]. The Tao of physics, no place. — Fontana / Collins (3rd ed.).
- CELANO, A. J. 1995. The end of practical wisdom: Ethics as science in the thirteenth century. — *Journal of the History of Philosophy*, **33**: 225-243.
- CHITTICK, W. C. 1989. The Sufi path of knowledge: Ibn al-'Arabi's metaphysics of imagination. — Albany, S[tate] U[niversity of] N[ew] Y[ork] Press.
- COIA, V., DESTRO-BISOL, G., VERGINELLI, G., BATTAGIA, C., BOSCHI, I., CRUCIANI, F., SPEDINI, G., COMAS, D. & CALAFELL, F. 2005. Brief communication: MtDNA variation in North Cameroon: Lack of Asian lineages and implications for back migration from Asia to sub-Saharan Africa. — *American Journal of Physical Anthropology*, **128**(3): 678-681.
- COOMARASWAMY, A. K. 1943. Eastern wisdom and western knowledge. — *Isis*, **34**(4): 359-363.
- CRUCIANI, F., SANTOLAMAZZA, P., SHEN, P., MACAULAY, V., MORAL, P., OLCKERS, A., MODIANO, D., HOLMES, S., DESTRO-BISOL, G., COIA, V., WALLACE, D. C., OEFNER, P. J., TORRONI, A., CAVALLI-SFORZA, L. L., SCOZZARI, R. & UNDERHILL, P. A. 2002. A back migration from Asia to sub-Saharan Africa is supported by high-resolution analysis of human Y-chromosome haplotypes. — *American Journal of Human Genetics*, **70**: 1197-1214.
- CURNOW, T. 1999. Wisdom, Intuition and Ethics. — Aldershot (UK) & Brookfield (VT), Ashgate.
- DE BOECK, F. 1995. Bodies of remembrance: knowledge, experience and the growing of memory in Luunda ritual performance. — In: THINES, G. & DE HEUSCH, L. (éds), *Rites et ritualisation*. Paris, Vrin; Lyon, Institut Interdisciplinaire d'Etudes Epistémologiques, pp. 113-138.
- DE DIJN, H. 1996. Spinoza: The Way to Wisdom. — West Lafayette (Ind.), Purdue University Press.
- DE LA METTRIE, O. 1999 [1747]. L'Homme-Machine. — Paris, Denoël-Gonthier.
- DE MUL, J. 1993. De tragedie van de eendigheid: Dilthey's hermeneutiek van het leven. — Kampen, Kok Agora.
- DENNETT, D. C. 1991. Consciousness explained. — Harmondsworth, Penguin.
- DERRIDA, J. 1967. L'écriture et la différence. — Paris, Le Seuil.
- DERRIDA, J. 1972. Marges de la philosophie. — Paris, Minuit.
- DERRIDA, J. 1996. Foi et savoir: les deux sources de la "religion" aux limites de la simple raison. — In: DERRIDA, J. & VATTIMO, G. (éds), *La religion*. Paris, Le Seuil; Rome, Laterza, pp. 9-86.

- DERRIDA, J. 1999. Responsabilité et hospitalité. — *In*: SEFFAHI, M. (éd.), *Manifeste pour l'hospitalité*. Paris, Paroles l'Aube, pp. 121-124.
- DEVISCH, R. 1985. La complicité entre le socio-culturel et le corps total chez les Yaka du Zaïre. — *In*: JEDDI, E. (éd.), *Psychose, famille et culture*. Paris, L'Harmattan, pp. 82-114.
- DEVISCH, R. 1990. The human body as a vehicle for emotions among the Yaka of Zaïre. — *In*: JACKSON, M. & KARP, I. (eds.), *Personhood and agency: The experience of self and other in African cultures*. Uppsala, Acta Universitatis Upsaliensis, pp. 115-133.
- DEVISCH, R. 1995. Des forces aux symboles dans le rite bantou: l'Interanimation entre corps, groupe et monde. — *In*: DEVISCH, R., PERROT, C., VOYÉ, L. & CHAUVET, L. (éds), *Le rite: Source et ressources*. Bruxelles, Facultés Universitaires Saint-Louis, pp. 11-83.
- EINSTEIN, A. PODOLSKY, B. & ROSEN, N. 1935. Can quantum-mechanical description of physical reality be considered complete? — *Physical Review*, 47: 777-780.
- EINSTEIN, A., TOLMAN, R. C. & PODOLSKY, B. 1931. Knowledge of past and future in quantum mechanics. — *Physical Review*, 37: 780-781.
- EISENBUD, J. 1982. *Paranormal foreknowledge: Problems and perplexities*. — New York, Human Sciences Press.
- EPSTEIN, R. 1985. "The transformation of consciousness into wisdom": The path of the Bodhisattva according to the Ch'eng Wei-shih Lun. — *Vajra Bodhi Sea: A Monthly Journal of Orthodox Buddhism*, Part I (Jan.): 15(176): 22-23; Part II (Feb.): 15(177): 15-17; Part III (March): 15(178): 14-15.
- ERIKSON, E. H. 1963. *Childhood and society*. — New York, Norton.
- ERIKSON, E. H. 1982. *The life cycle completed: A review*. — New York, Norton.
- FAËD, T. 1966. *La divination arabe*. — Leiden, Brill.
- FEDRY, J. 1976. L'expérience du corps comme structure du langage: essai sur la langue sâr (Tchad). — *L'Homme*, 16: 64-107.
- FERNANDEZ, J. W. 1990. The body in Bwiti: Variations on a theme by Richard Werbner. — *Journal of African Religion*, 20(1): 92-111.
- FLYVBJERG, B. 1993. Aristotle, Foucault and progressive phronesis: Outline of an applied ethics for sustainable development. — *In*: WINKLER, E. R. & COOMBS, J. R. (eds.), *Applied ethics: A reader*. Cambridge (MA) / Oxford (UK), Blackwell, pp. 11-27.
- GADAMER, H.-G. 1960. *Wahrheit und Methode. Grundzüge einer philosophischen Hermeneutik*. — Tübingen, Mohr (Siebeck).
- GALLAGHER, S. 1997. The place of phronesis in postmodern hermeneutics. — *In*: MARTINEZ, R. (ed.), *The very idea of radical hermeneutics*. Atlantic Highland (NJ), Humanities Press, pp. 22-31.
- GEYER, C.-F. 1989. Philosophie im Spannungsfeld von Weisheit und Wissenschaft. — *In*: OELMULLER, W. (ed.), *Philosophie und Weisheit*. Paderborn, etc., Schoeningh, pp. 275-308; pp. 54-64.
- GLUCKMAN, H. M. 1955. *Custom and conflict in Africa*. — Oxford, Blackwell.
- GODLOVITCH, S. 1981. On wisdom. — *Canadian Journal of Philosophy*, 11(1): 137-155.
- GRAVES, R. 1964 [1955]. *The Greek myths* (2 vols.). — Harmondsworth, Penguin.
- GRIM, P. (ed.) 1990 [1982]. *Philosophy of science and the occult*. — Albany, State University of New York Press (2nd ed.).
- GYEKYE, K. 1995 [1987]. *An essay on African philosophical thought: The Akan conceptual scheme*. — Philadelphia, Temple University Press (rev. ed.).

- HADOT, P. 1995. *Philosophy as a way of life: Spiritual exercises from Socrates to Foucault*. — New York, Blackwell.
- HAMMER, M. F., KARAFET, T., RASANAYAGAM, A., WOOD, E. T., ALTHEIDE, T. K., JENKINS, T., GRIFFITHS, R. C., TEMPLETON, A. R. & ZEGURA, S. L. 1998. Out of Africa and back again: nested cladistic analysis of human Y chromosome variation. — *Molecular Biology and Evolution*, **15**(4): 427-441.
- HANNA, F. J. & OTTENS, A. J. 1995. The role of wisdom in psychotherapy. — *Journal of Psychotherapy Integration*, **5**(3): 195-219.
- HARTSHORNE, C. 1987. *Wisdom as moderation: A philosophy of the middle way*. — Albany (NY), State University of New York Press.
- HAVERKORT, B. & HIEMSTRA, W. (eds.) 1999. *Food for thought: Ancient visions and new experiments of rural people*. — Leusden, Compass; Bangalore, Books for Change; London, Zed.
- HEIDEGGER, M. 1977. *Sein und Zeit* (1927), Gesamtausgabe, XIV, 583. — Frankfurt am Main, Klostermann.
- HEIDEGGER, M. 1982. *Parmenides* (WS 1942-1943), Gesamtausgabe, 252. — Frankfurt am Main, Klostermann.
- HEIDEGGER, M. 1983. *Die Grundbegriffe der Metaphysik: Welt, Endlichkeit, Einsamkeit* (WS 1929-1930), Gesamtausgabe, 544. — Frankfurt am Main, Klostermann.
- HYLAND, D. A. 1995. *Finitude and transcendence in the Platonic dialogues*. — Albany, State University of New York Press.
- JACOBS, J. 1989. Practical wisdom, objectivity and relativism. — *American Philosophical Quarterly*, **26**: 199-209.
- JACOBSON-WIDDING, A. (ed.) 1991. *Body and space: Symbolic models of unity and division in African cosmology and experience*. — Uppsala, Almqvist & Wiksell.
- JACOBY, R. 1994. *Dogmatic wisdom: How the culture wars divert education and distract America*. — New York, Doubleday.
- JANAWAY, C. 1999. Introduction. — In: JANAWAY, C. (ed.), *The Cambridge companion to Schopenhauer*. Cambridge, Cambridge University Press, pp. 1-17.
- JONES, D. & CULLINEY, J. 1998. Confucian order at the edge of chaos: The science of complexity and ancient wisdom. — *Zygon*, **33**(3): 395-404.
- KEKES, J. 1983. Wisdom. — *American Philosophical Quarterly*, **20**: 277-286.
- KEKES, J. 1995. *Moral wisdom and good lives*. — Ithaca (NY), Cornell University Press.
- KIMMERLE, H. (ed.) 1989. *We, I and body: First joint symposium of philosophers from Africa and the Netherlands*. — Amsterdam, Grüner.
- KRAMER, D. A. 1990. Conceptualizing wisdom: the primacy of affect-cognition relations. — In: STERNBERG, R. J. (ed.), *Wisdom: Its nature, origins, and development*. Cambridge (UK), Cambridge University Press, pp. 279-313.
- KUBIK, G. 1977. Patterns of body movement in the music of boys' initiation in South-east Angola. — In: BLACKING, J. (ed.), *The anthropology of the body*. London, Academic Press, pp. 253-274.
- LEFKOWITZ, M. R. & MACLEAN ROGERS, G. (eds.) 1996. *Black Athena revisited*. — Chapel Hill & London, University of North Carolina Press.
- LEIBNIZ, G. W. 1994. *Writing on China*. — Chicago & La Salle, Open Court (ed. & transl. by D. J. Cook & H. Rosemont Jr.).
- LEVINAS, E. 1976. *Difficile liberté: essais sur le judaïsme*. — Paris, Albin Michel (2nd ed.).

- LEVITT, H. M. 1999. The development of wisdom: An analysis of Tibetan Buddhist experience. — *Journal of Humanistic Psychology*, **39**: 86-105.
- LYOTARD, J.-F. 1983. *Le différend*. — Paris, Minuit.
- MACINTYRE, A. 1981. *After virtue: A study in moral theory*. — London, Duckworth.
- MAERCKER, A., BOHMIG-KRUMHAAR, S. A. & STAUDINGER, U. M. 1998. Existentielle Konfrontation als Zugang zu weisheitsbezogenem Wissen und Urteilen: Eine Untersuchung von Weisheitsnominierten. — *Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie*, **30**: 2-11.
- MANHEIMER, R. J. 1992. Wisdom and method: Philosophical contributions to gerontology. — In: COLE, T. R., VAN TASSEL, D. D. & KASTENBAUM, R. (eds.), *Handbook of the humanities and aging*. New York, Springer, pp. 426-440.
- MARITAIN, J. 1940. *Science and wisdom*. — New York, Charles Scribners Sons.
- MARQUARD, O. 1989. Drei Betrachtungen zum Thema Philosophie und Weisheit. — In: OELMULLER, W. (ed.), *Philosophie und Weisheit*. Paderborn, etc., Schoeningh, pp. 275-308.
- MASLOW, A. H. 1968 [1962]. *Toward a psychology of being*. — New York, van Nostrand (rev. ed.).
- MASLOW, A. H. 1971. *The farther reaches of human nature*. — New York, Viking Press.
- MASSIGNON, L. 1922. *La passion d'al-Husayn Ibn Mansour al-Hallaj: martyr mystique de l'Islam, exécuté à Bagdad le 26 mars 922: une étude d'histoire religieuse, I-II*. — Paris, Geuthner.
- MAW, J. & PICTON, J. (eds.) 1992. *Concepts of the body / self in Africa*. — Wien, Afro-Pub, Veröffentlichungen der Institute für Afrikanistik und Ägyptologie der Universität Wien, no. 60, *Beiträge zur Afrikanistik*, band 43.
- MAXWELL, N. 1984. *From knowledge to wisdom*. — Oxford (UK) / New York, Blackwell.
- MEACHAM, J. A. 1983. Wisdom and the context of knowledge: Knowing that one doesn't know. — In: KUHN, D. & MEACHAM, J. A. (eds.), *On the development of developmental psychology*. Basel / New York, Karger, pp. 111-134.
- MUDIMBE, V. Y. 1988. *The invention of Africa: Gnosis, philosophy, and the order of knowledge*. — Bloomington & Indianapolis, Indiana University Press; London, Currey.
- MUNDLE, C.W.K. 1964. Is "paranormal precognition" a coherent concept? — *Journal of Parapsychology*, **6**: 179-94.
- NGUBANE, [S.] H. 1977. *Body and mind in Zulu medicine: An ethnography of health and disease in Nyuswa-Zulu thought and practice*. — London / New York / San Francisco, Academic Press.
- NGWANE, G. 1996. *Settling disputes in Africa: Traditional bases for conflict resolution*. — Yaounde, Buma Kor.
- NIELSEN, K. 1993. Philosophy and the search for wisdom. — *Teaching Philosophy*, **16**(1): 5-20.
- NOEL, J. 1999. On the varieties of phronesis. — *Educational Philosophy and Theory*, **31**(3): 273-289.
- NORBECK, E. 1963. African rituals of conflict. — *American Anthropologist*, **65**: 1254-1279.
- ODERA ORUKA, H. O. 1990. Cultural fundamentals in philosophy: Obstacles in philosophical dialogues. — *Quest: Philosophical discussions*, **4**(2): 20-37.
- OLIVIER DE SARDAN, J.-P. 1988. *Jeu de la croyance et "je" ethnologique: exotisme religieux et ethno-égocentrisme*. — *Cahiers d'Etudes Africaines*, **28**(3-4): 527-540.

- PARSONS, T. 1949 [1937]. The structure of social action. — Glencoe, Free Press.
- RADIN, D. I. 1997. The conscious universe: The scientific truth of psychic phenomena. — San Francisco, Harper.
- RADIN, D. I. & NELSON, R. D. 1989. Evidence for consciousness-related anomalies in random physical systems. — *Foundations of Physics*, 19(12): 1499-1514.
- RICE, E. F. 1958. The Renaissance idea of wisdom. — Cambridge (MA), Harvard University Press.
- RICÉUR, P. 1960. Finitude et culpabilité. — Paris, Aubier.
- RYLE, G. 1949. The concept of mind. — London, Hutchinsons.
- SAID, E.W. 1978. Orientalism. — London, Routledge & Kegan Paul.
- SEDLEY, D. 1998. Lucretius and the transformation of Greek wisdom. — Cambridge, Cambridge University Press.
- SEN, A. 1999. Development as freedom. — New York, Random House-Anchor.
- SHAH, I. 1971 [1964]. The Sufis. — Garden City (NY), Doubleday.
- SIMONSE, S. 1992. Kings of disaster: Dualism, centralism and the scapegoat king in south-eastern Sudan. — Leiden, Brill.
- SMITH, N. D. 1998. Wisdom. — In: CRAIG, E. (ed.), Routledge encyclopedia of philosophy. London & New York, Routledge, pp. 752-755.
- STAUDINGER, U. M. & BALTES, P. B. 1996. Interactive minds: A facilitative setting for wisdom-related performance. — *Journal of Personality and Social Psychology*, 77: 746-762.
- STEMBERG, R. J. (ed.) 1990. Wisdom: Its nature, origins, and development. — Cambridge (UK), Cambridge University Press.
- STRIBOS, S. 1995. How can systems thinking help us in bridging the gap between science and wisdom? — *Systems Practice*, 8: 361-376.
- TARANTO, M. A. 1989. Facets of wisdom: A theoretical synthesis. — *International Journal of Aging and Human Development*, 29: 1-21.
- TURNER, V. W. 1967. Muchona the hornet, interpreter of religion. — In: TURNER, V. W. (ed.), The forest of symbols: Aspects of Ndembu ritual. Ithaca (NY), Cornell University Press, pp. 131-150.
- ULLMAN, M. 1972. Die Natur- und Geheimwissenschaft im Islam. Handbuch der Orientalistik. Erste Abteilung: Der Nahe und der Mittlere Osten, Ergänzungsband, VI, 2. Abschnitt. — Leiden, Brill.
- VAN BINSBERGEN, W. M. J. (ed.) 1997. Black Athena: Ten Years After. — In: Talanta, Proceedings of the Dutch Archaeological and Historical Society. Hoofddorp, Dutch Archaeological and Historical Society, 28-29 (special issue); updated version in press as: Black Athena: Twenty Years Later. Berlin/Boston/Munster, LIT.
- VAN BINSBERGEN, W. M. J. 2003a. Intercultural encounters: African and anthropological towards a philosophy of interculturality. — Berlin/Boston/Munster, LIT, 610 pp.
- VAN BINSBERGEN, W. M. J. 2003b. The translation of Southern African sangoma divination towards a global format, and the validity of the knowledge it produces. — In: Symposium 'World views, Science and Us' (Brussels, Centre Leo Apostel, Free University Brussels, 10 June 2003).
- VAN BINSBERGEN, W. M. J. 2003c. Reconciliation: Ideas and procedures constituting the African social technology of shared and recognised humanity. — In: VAN BINSBERGEN, W. M. J., Intercultural encounters: African and anthropological towards a philosophy of interculturality. Berlin/Boston/Munster, LIT, pp. 349-374.

- VAN BINSBERGEN, W. M. J. 2003d. Cultures do not exist: Exploding self-evidences in the investigation of interculturality. — *In*: VAN BINSBERGEN, W. M. F., *Intercultural encounters: African and anthropological towards a philosophy of interculturality*. Berlin/Boston/Munster, LIT, pp. 459-524; Dutch version: *Culturen bestaan niet*. Rotterdam, Erasmus University Rotterdam, inaugural lecture chair of foundations of intercultural philosophy, Rotterdam Filosofische Studies (1999).
- VAN BINSBERGEN, W. M. J. 2006b. Mythological archaeology: Situating sub-Saharan cosmogonic myths within a long-range intercontinental comparative perspective. — *In*: OSADA, T. & HASE, N. (eds.), *Proceedings of the Pre-symposium of RIHN and 7th ESCA Harvard-Kyoto Round table*. Kyoto, Research Institute for Humanity and Nature (RIHN), pp. 319-349.
- VAN BINSBERGEN, W. M. J. 2007. The underpinning of scientific knowledge systems: Epistemology or hegemonic power? The implications of Sandra Harding's critique of North Atlantic science for the appreciation of African knowledge systems. — *In*: HOUNTONDJI, P. J. (ed.), *La rationalité, une ou plurielle*. Dakar, CODESRIA [Conseil pour le développement de la recherche en sciences sociales en Afrique] / UNESCO [Organisation des Nations Unies pour l'éducation, la science et la culture], pp. 294-327.
- VAN BINSBERGEN, W. M. J. 2008. Further steps towards an aggregative diachronic approach to world mythology, starting from the African continent. — *In*: DUAN QING & GU ZHENKUN (eds.), *Proceedings of the International Conference on 'Comparative Mythology'* (Beijing, Peking University, May 10-14, 2006); preprint at: http://www.shikanda.net/ancient_models/Further%20steps%20def.pdf.
- VAN BINSBERGEN, W. M. J. 2009. Expressions of Traditional Wisdom from Africa and Beyond: An Exploration in Intercultural Epistemology. — *Verhandelingen Koninklijke Academie voor Overzeese Wetenschappen, Klasse voor Morele en Politieke Wetenschappen*, N. R. 53 (4), pp.
- VAN BINSBERGEN, W. M. J. & GESCHIERE, P. L. (eds.) 2005. *Commodification: Things, Agency and Identities: The social life of things revisited*. — Berlin / Boston / Munster, LIT.
- WALKER, E. H. 1977. The compleat [*sic*] quantum mechanical anthropologist. — *In*: LONG, J. K. (ed.), *Extrasensory ecology: Parapsychology and anthropology*. Metuchen (N. J.) & London, Scarecrow Press, pp. 53-95.
- WIREDU, K. 1980. *Philosophy and an African culture: The case of the Akan*. — Cambridge, Cambridge University Press.
- WIREDU, K. 1990. Are there cultural universals. — *Quest: Philosophical discussions*, 4 (2): 4-19.
- WIREDU, K. 1996. *Cultural universals and particulars. An African perspective*. — Bloomington & Indianapolis, Indiana University Press.
- WIREDU, K. & GYEKYE, K. (eds.) 1992. *Person and community: Ghanaian philosophical studies*. — Washington (DC), Council for Research in Values and Philosophy.
- WITTGENSTEIN, L. 1964 [1921]. *Tractatus logico-philosophicus: Logisch-philosophische Abhandlung*. — Frankfurt am Main, Suhrkamp.
- WITTGENSTEIN, L. 1967 [1953]. *Philosophische Untersuchungen*. — Frankfurt am Main, Suhrkamp.
- ZUKAV, G. 1979. *The dancing Wu-Li masters: An overview of the new physics*. — New York, Morrow.

Traditional Wisdom and Ideas about History in Bantu Oral Traditions of Namibia and Angola*

by

Marc SEIFERT**

KEYWORDS. — Ethno-history; Oral Traditions; Types and Motives; Comparative Linguistics.

SUMMARY. — At least since the important works of Ruth Finnegan and Jan Vansina in the 1960s and 1970s, there is no doubt about the meaning of oral traditions for the research on African history. Although a lot of scientists have been dealing with the different genres of oral traditions since then, and many approaches have been developed to extract historical knowledge from oral traditions, no really competitive methods have been compiled up to the present. Even more theoretical works, like those of Okpewho in Alagoa, do not negate the fact that oral traditions bear ideas of history, e.g. in the institutions for the veneration of ancestors and in art, which are usually related to traditional wisdom. These ideas are often represented in an implicit way, which is to be interpreted with difficulty before their historiographical meaning can be made explicit.

The aim of my work is to extract elements (motives) bearing traditional wisdom related to such ideas of history from oral traditions by the use of methods borrowed from comparative linguistics and to correlate those elements with extratextual knowledge like facts about metallurgy, etc. Within the collaborative research centre ACACIA, located at the University of Cologne, Germany, I have worked together with linguists, historians, archaeologists, ethnologists and geographers in an interdisciplinary discourse for the past five years. Thus, it became possible to develop theoretical and methodological approaches for the work on a historical model of southwestern Africa (northern Namibia and southern Angola), including extensive works on migration, settlement and language history.

In this paper I would like to present a case study dealing with the extraction of traditional wisdom and ideas about history from fictional documentary texts of the Bantu-speaking societies of the above-mentioned region (Chokwe, Lucazi, Umbundu, Ovambo, Kavango). These texts are rich in cultural and historical elements and form a major part of their oral traditions. How can traditional wisdom and ideas about history be made explicit in these texts? How can they be correlated with extratextual knowledge and the results of linguistic and other research? What methods may lead to statements about the history of these ethnic groups?

* Paper presented at the International Symposium "Expressions of Traditional Wisdom" (Brussels, 28 September 2007).

** Research Assistant, Institut für Afrikanistik der Universität zu Köln, Meister-Ekkehart Straße 7, D-50923 Köln (Germany).

Introduction

In most parts of sub-Saharan Africa, traditional wisdom [1]* and history are closely related to each other for two reasons: first of all, both are products of a process of remembering, rethinking and reinterpreting incidents or developments of a manifold and subjective perceived past in a contemporary context, and thus constructed. Secondly, both are handed down from generation to generation, almost exclusively in oral forms. Research methods, academic questions or goals and results are deeply influenced by the problems related to these ascertainments. The following article will focus on some of these aspects and illustrate them with data and preliminary results of metallurgy in Bantu heroic myths while giving a short survey of a research project on migration, settlement and cultural history in northern Namibia and Angola on the basis of linguistic, non-linguistic and oral sources.

The results this article is based on, are the outcome of my work within the intellectual frame of ACACIA's subproject B.1. During the past twelve years, the multidisciplinary collaborative research centre ACACIA [2], settled at the University of Cologne (Germany), aimed at the historical development of the African continent and its people during the last 12,000 years, focusing on the complex interrelation between mankind and changing environmental conditions. Within this research centre, the project B.1 focused on migration, settlement and cultural history in southwestern Africa on the basis of linguistic sources. My own research aims at the role of different kinds of oral sources — in particular Bantu heroic myths — for the collective ideas and history of southwestern Africa's Bantu peoples, their interrelation to Khoesan speaking groups and their cultural adaptation and innovation to the economical and ecological conditions of the arid climate environment of the northern Kalahari desert.

ORAL TRADITIONS AS SOURCES OF WISDOM AND HISTORY

After Ruth Finnegan unhinged the African oral traditions from their ungrateful role as resources for linguistic research in the 1970s and upheaved them to a deserved state as products of individual art (FINNEGAN 1970), their importance for the investigation of African culture, history, philosophy, etc. has steadily grown. Jan Vansina's "Oral tradition as history" (VANSINA 1985) represents one of the first great attempts to cope with the particular problems of oral traditions as sources for historical and anthropological research. Since then, lots of studies have dealt with the role and functions of oral traditions in Africa, in particular with their relation to oral history, ethnohistory, ethnicity and cultural change and the methods to work on them (e.g. BOLLIG 1997; BRINKMAN 1999, 2001, 2007; BRINKMAN & FLEISCH 1999; GEIDER 1990, 2003; MUDIMBE 1988; VANSINA 1990;

* Numbers in brackets [] refer to the notes, p. 316.

WEIDTMANN 1998). Nevertheless, to this day, lack of appropriate methods as well as non-methodical procedures still brand a lot of scientific work done in these thematic fields (Möhlig *et al.*, forthcoming). Narratives, which fall into VANSINA's (1985-3, 29-31; 1990-257-260) concept of 'tradition' — "a changing, inherited, collective body of cognitive and physical representations shared by their members" —, are related to some fundamental problems, due to their way of emergence and existence. Eventually, however, personal memories and oral traditions which are built upon personal memories do not lead to historical facts or exact data but enable us to gain insights about how communities thought about their culture and how they reflected on it. They lead to an emic perspective of how these groups constructed their own history or, as VANSINA (1990, p. 20) stated, to the history of ideas: "[...], because every case is the product of its own history." And if wisdom is considered as a holistic synthesis of comprehension, overlook and distance, oral traditions also provide us with a concentrated form of collective wisdom, which has been handed down, adapted and improved from generation to generation — wisdom about all parts of cultural and social life. Wisdom on which survival and continuity of each group or society is based.

THE ETHNO-HISTORIC SITUATION IN SOUTH-CENTRAL AFRICA

Among the Bantu languages of northern Namibia, central and southern Angola, four language clusters are to be distinguished: the Chokwe-Lucazi group, the Umbundu group, the Owambo group and the Kavango group. The different developments of these language groups could also be observed on the level of motifs and themes during the analysis of the texts. All four groups have in common that they are dialect continua, where dialect boundaries can hardly be defined geographically. A high level of understandability, at least in the centre of each cluster, and a great number of shared linguistic features are typical labels of all groups. For historical linguistics, these languages are of great interest. All relevant approaches concerning the 'spread' of the Bantu languages "seem to maintain to a certain extent the dichotomy between Eastern and Western Bantu languages or between Rainforest and Savannah Bantu languages respectively. The area under study lies close to the hypothetical borderline" between these nuclei or strata (FLEISCH 2000, p. 18).

Speakers of these languages are marked by a high flexibility according to their ethnic identity which seems to be borne by language rather than by ethnicity or cultural features. The current situation in this area is a product of a complex process of assimilation between different Khoesan and Bantu speaking groups (FLEISCH 1994, VANSINA 2004). Thus, a careful differentiation between a language and its speakers is inevitable. Instead of ethnic groups and ethnohistory, it seems to be more worthy to talk about clans, kin groups, speech or settlement communities, and partnerships of convenience — especially between Bantu and Khoesan speaking people — with each community having its own conception of history and oral traditions (BRINKMAN 2007). At the same time, at least all Bantu

speaking communities share some central cultural features, so-called collective ideas or collective imagination (VANSINA 2004), which are indispensable for the comprehension of the texts (Seifert, forthcoming).

Analysis of Motifs in Bantu Heroic Myths and their Correlation with Extra-linguistic Data

AN INTERDISCIPLINARY METHODOLOGY

Since the emergence of structure-based approaches to the analysis of folktales, like those of Propp and Dundes *e.g.*, it is a commonplace that a synchronic analysis has to precede any diachronic interpretation. Thus, different methods are necessary for the two levels and due to the complex structure of the data an explicit exposition and critical assessment of the used methods should be an essential part of any comparable work. For the synchronic analysis of the Bantu heroic myths, a combination of methods developed by MOHLIG (1986, 1995) and GEIDER (1990, 2003) has been selected. The interdisciplinarily applied methods combine elements of several disciplines, namely African studies (*Afrikanistik*), folklore, ethnology, literature and linguistics, and are the outcome of a discursive process, worked out and described in GEIDER (2003) and Seifert (forthcoming). The resulting corpus-based method aims at processing and editing oral texts for a comparative analysis and a reproduction and recognizability of the core elements of the original language texts. Core elements of this method are metalinguistical phrasing and exemplification of the linguistical, formal, cultural and (oral) literary contexts of fictitious folktales and their functions. Narrations, motifs and further entities for comparison are formulated on a metalinguistical level and qualified on the basis of the original language texts.

The diachronic analysis and interpretation of the texts is based on MOHLIG's (1995) linguistic-based text-pragmatic method as well as on a discursive, iterative and recursive operating interdisciplinary method for historical linguistics which was introduced by MOHLIG (1989) and refined by Möhlig *et al.* (forthcoming) and also applied by Kose & Seifert (forthcoming). This method centres on methodological elements that in a broader sense can be subsumed under historical linguistics. However, in order to create any sort of plausible account of the pre-history in Africa, one also has to take non-linguistic data into consideration that fall under the competence of various other disciplines like ethnology, archaeology, geography, ecology and other (natural) sciences.

THE DATA

My corpus consists of thirty heroic tales [3], told in ten Bantu languages of northern Namibia, central and southern Angola (fig. 1). The texts have been recorded during the past one hundred and fifty years by missionaries, linguists

and anthropologists. Most of them are published in monographies and periodicals or are accessible in public archives. Only few texts have been taken from private collections. A large amount of the texts exists in an original Bantu version as well as in a German, English or French translation. Thus, it was also possible to work on a linguistic level with the object languages. Fifteen of these tales describe the life of a mythical hero from his mysterious birth until he becomes paramount chief of his society, including four episodes telling about (1) his flight from the court of a sacred king [4], the king changing into an ogre (an all swallowing monster threatening the society) while following him, the swallowing of the hero's mother or, in some cases, whole villages by this ogre, (2) the killing of the ogre by the hero, (3) the freeing of the hero's mother / the ogre's victims, and (4) the hero finally becoming the new sacred king. The remaining tales are extractions of the former and express only one or a few episodes out of the whole plot as independent stories. [5] As a result of a motif analysis, the tales have been grouped into two tale types, namely *Sambilikita* and *Tjakova*, with several subtypes, and labelled by their main characters. They are to be classified as myths because of their significant function for the Bantu speaking communities at least in Namibia and Angola. As carriers of collective ideas, they form a basis for a southwestern Bantu community of cultures and values. The tales contain a lot of encoded information or collective wisdom about the groups by whom they are told, concerning their social orders, their way of living, their economic situation,

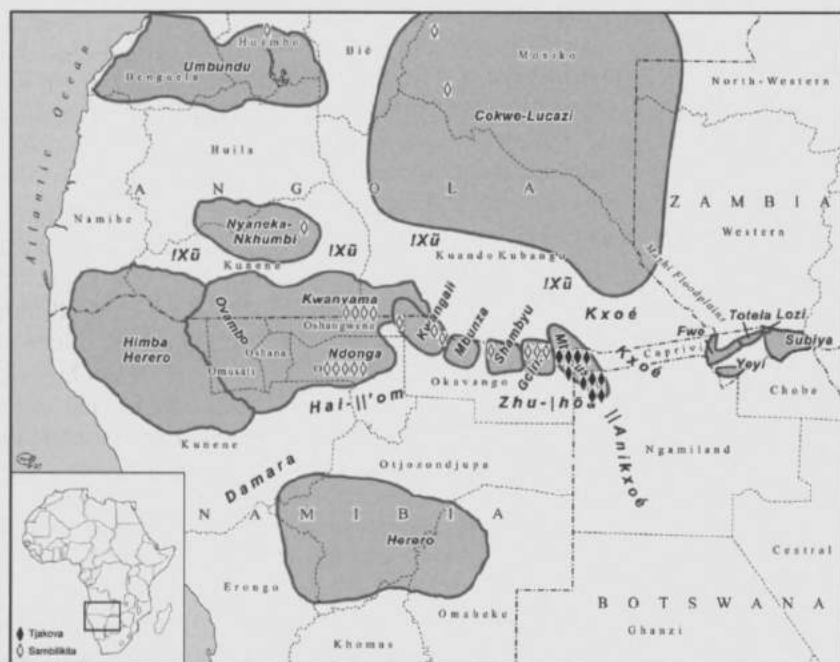


Fig. 1. — Geographical distribution of the *Sambilikita* and *Tjakova* texts.

etc. The most important piece of information, however, is how these groups managed their survival in an arid climate environment with its limited ecological resources and how this led to cultural innovations and adaptations which influenced and changed their social orders.

METALLURGY

The four episodes specified above usually make up about one third or more of the whole plot respectively form the content of most part of the extractions. These episodes show a high degree of conformity on both the level of the motifs and their narrative function. Furthermore, they are told by all Bantu speaking communities living in the area under study and may be found in nearly all Bantu languages and oratures of northern Namibia, central and southern Angola. Among the different variants there occur several ways of killing the ogre — all related either to metallurgy or to rainmaking and fertility. While the link between rainmaking and power is very obvious in an arid climate environment, the exceeding presence and occurrence of metallurgy requires some further remarks.

The most common form of metallurgy in the texts is that of gastrotomy or magic thirst. To kill the ogre, the hero lures and provokes him to swallow objects related to smelting or forging of iron like charcoal, fire or a bellow. Sometimes, these objects may be replaced by metal artefacts like knives or spears. In some cases, the hero provokes the ogre to swallow him. Right now, the victims inside the ogre's belly begin to light a fire and fan it properly with the bellow or, alternatively cut the ogre's intestines with the knife or spear. The ogre gets thirsty, calls on a source of water, maybe the river or a waterhole, tries a sip of water and jumps into the source, which suddenly runs dry. As a result, the ogre dies from thirst. This desiccation of the water source marks both the transfer of the power of rainmaking and fertility from the old king — in shape of the ogre — to the new king — the hero —, and environmental change which, in form of droughts *e.g.*, has been faithfully observed by the people. After he dying from thirst, the ogre either bursts or is cut by the hero / the hero's helpers to free the swallowed victims. Sometimes the hero needs to perform specific rituals all related to rainmaking and fertility to open the ogre's belly. After the victims, especially the mother of the hero, are free, he becomes the new sacred rainmaking king of his new, culturally initiated society.

- (1) Nye pwahupire kamati kamwe, kakere komrunge no mpepo gwako takahambura.
Only a single lad was left, who sat in a fan palm with his bellow and forged.
- (2) Mmati anazuguminemo makara, a linamini.
Then, he pitched in charcoal, (which) that creature swallowed (it).
- (3) Anazuguminemo mpepo mwalyo.
Then, he pitched in his bellow.
(Kwangali; DAMMANN 1959, p. 222.)

A key to the interpretation of the tales is to regard the heroic character as a symbol or an agent of cultural adaptation and innovation while the sacred king

stands for conservative social institutions. Due to the threatening of the social order released by the innovative hero, the sacred king tries to fight and stop the hero to save his own position, but in vain. Caused by magic or unsocial behaviour of individuals like the hero's mother, the king changes into an ogre, who is a metaphor for the environmental imminences [6] and changes which can only be overcome by cultural innovation. The hero killing the ogre means not only a victory of adaptive and innovative culture over nature but also leads to a new, initiated society under the rule of a new and more powerful sacred king and thus refers to the ritual of regicide too.

The high importance of metallurgy as cultural innovation in this process can be shown by means of several elements. First of all, more than 75 % of the tales use the strategy of magic thirst to implement the element of killing the ogre. Even those communities that do not smelt iron ore like the Manyo (Shambyu, Gciriku) e.g., handed down the process of smelting to other groups (FLEISCH & MOHLIG 2002) include mutilated forms of these elements in their tales. In the context of some communities of the Owambo language cluster, the name of the hero is replaced by the word for smith – *kashenye* – in those specific episodes of the tales (examples 4-6).

- (4) *Kashenye* nokwa ti: “yakela ndje ano”. Nokwa umbu omumbamba gwomakala.
Kashenye said: “Just catch me!” Then, he threw down a basket with charcoal.
- (5) *Kashenye* okwa li nomupepo nokwe gu umbile ethithi. ethithi olya hwekele mokana. oye noku umbu ko olukalo. Natango olya li olukalo.
Kashenye now had a bellow, and he threw it onto the ogre. The ogre put it in his mouth. Then he threw an ambos. Again, the ogre swallowed the ambos.
- (6) *Kashenye* shono a yi mela lyethithi, okwa tameke ihe okuhambula. okwa tameke okupepela nomupepo gwe.
After Kashenye had gone into the stomach of the ogre, he started forging. He started to pump air with his bellow.
(Ndonga; DAMMANN & TIRRONEN 1975, p. 37.)

GLOBAL MOTIFS, LOCAL CULTURES AND A REGIONAL INTERPRETATION

Although most of the motifs occurring in the tales show a more or less global or at least a pan-African distribution like the ‘birth of a hero from an egg’, ‘giant birds’ or the ‘death of an all-swallowing monster by gastrotomy’, etc. (Seifert, forthcoming), from my point of view, an interpretation of these elements based on a global approach will not lead to any reasonable results. At least not as a starting point. As MOHLIG (1989, p. 9) stated, the occurrence of a motif or theme in several cultures is not meaningful for a comparison and does barely say anything about its relation to the same theme or motif in a different culture. Essential is what images, patterns and concepts are used for its implementation and verbalization. Furthermore, themes and motifs may be borrowed like linguistic phenomena and adapted to the cultural environment of the narrators (HONKO 1981 — localization, HASAN-ROKEM 2002 — development of eco-types) [7].

For the interpretation of folktales, GEIDER (2003) postulates to consider the perspective of cultural insiders and to put more weight on it compared to the researcher's perspective (cultural outsider). For the case discussed in this paper, a third — regional and collective — perspective seems to be necessary to capture the collective ideas and imaginations (VANSINA 2004) of a possible southwestern Bantu community of values and cultures which cannot be overcome solely by a cultural insider's perspective due to political reasons and those of status and prestige of the concerned communities. Only based on a combination of a local and a regional interpretation of themes, motifs and tales, considering the cultural insider's perspective as well as the researcher's perspective, a global interpretation on a more abstract or possibly psychoanalytic level seems to be feasible.

Conclusion

When about one millennium ago, the first Bantu speaking groups migrated into the arid area of the northern Kalahari desert from the North and East (fig. 2), they lived as hunter-gatherers and small flock herders. During the dissemination of such groups in northern Namibia, central and southern Angola and their interaction and intertwining with Khoesan speaking groups, they founded Late Stone Age and Early Iron Age settlements which were possible due to the introduction of horti- and agriculture. By their sedentary way of living, they became vulnerable to different kinds of imminences like flood, bush fire, wild animals and in particular drought and the consequences of onward desiccation. Next to pottery, metallurgy became the most significant innovative cultural technique. Smelting and forging of iron revolutionized agriculture, made farming a lot more efficient and thus made the groups more resilient to environmental change. In return, sedentariness, agriculture and metallurgy led to an hitherto unknown social and gender change. Men had to take their share in the seasonal work on the fields. Women became highly dependant on their husbands or other male relatives who had to pay for hoes and other metal artefacts, etc. Apart from perennial rivers, rainfalls were the most important resource and led to the emergence of elaborate rainmaking rituals which were soon related to political power, fertility and property. On a social level, cultural innovation led to the development of matrilineages and dispersed matriclans. On a political level, acephalous groups or settlement communities developed into hierarchically organized kindoms.

In this economical, ecological and spiritual environment, oral traditions, and in particular the heroic myths under study, contain information about the historical, cultural and social conditions of the agents who bequeath them. Themes, motifs and whole texts are closely related to the spread of the sacred kingdom and to the adaptation or introduction of metallurgy as an innovative culture technique. Problems emerge from the mode of knowledge which is more a kind of wisdom than a kind of historical fact or data and the way this information is encoded in

the tales. Interdisciplinary, recursive and discursive corpus-based methods of comparative motive research, comparative and historical linguistics and archeology enable the extraction of wisdom and knowledge about cultural developments in the past as it was shown here by means of elements dealing with environmental imminence and innovative culture techniques, e.g. This leads to a better understanding of historical processes of dispersion, settlement and cultural dissemination of Bantu speaking groups in southwestern Africa and how these communities were capable to cope with the limited resources of an arid climate environment.

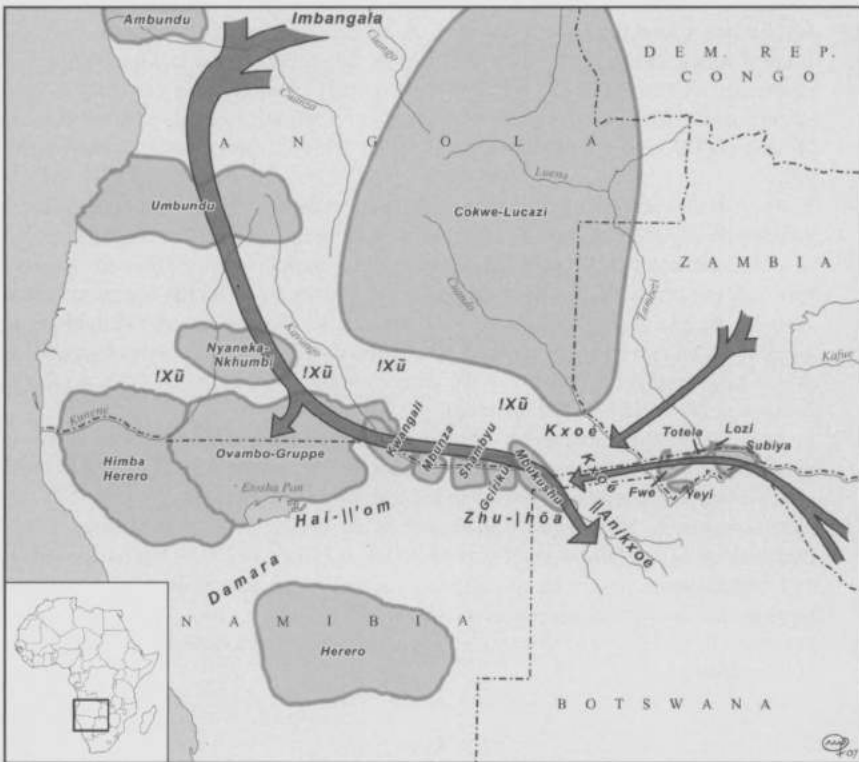


Fig. 2. — Expansion of the *Sambilikita* and *Tjakova* myths.

ACKNOWLEDGEMENTS

My thanks go to the organizers of the *International Symposium: Expressions of Traditional Wisdom* for having invited me to participate, to the German Research Foundation (DFG) for bearing the expenses of my trip to Brussels and the financial support in my research, and to my colleagues Wilhelm J. G. Möhlig and Kathrin Kolossa for giving their comments on the draft of this paper.

NOTES

- [1] In this article, the terms 'wisdom' and 'traditional wisdom' are used in a more collective way. Thus, they do rather not refer to individual knowledge, but to the ability of a society or social community to cope with the challenges of life — and in this particular case, the restricted ecological resources of an arid environment. In this regard, 'wisdom' or 'traditional wisdom' is represented by the collective ideas and imaginations of a community or society and aims at metallurgy, e.g. as an aspect of innovation rather than at specific iron smelting or forging technologies.
- [2] ACACIA is an acronym for ARID CLIMATE, ADAPTATION AND CULTURAL INNOVATION IN AFRICA. Cf. <http://www.uni-koeln.de/sfb389/>.
- [3] For further information about the data, its sources and a critical assessment of the sources which seemed to be necessary due to the chronological and qualitative heterogeneity of the texts, see Seifert (forthcoming). Sample texts covering a large amount of the whole plot and representing a lot of narrative details may be found in DAMMANN (1957, pp. 127-130), LOEB (1951, pp. 298-300) and LARSON (1994, pp. 94-98).
- [4] The part of the sacred king is usually represented in the texts by the Bantu term *kalunga* respectively *suku* or *nyambi*, and often misinterpreted as 'God' or 'supreme being' in a Christian context. Actually, *kalunga* denotes a complex concept related to at least spiritual, but probably also political and economical power. Within the great central Angolan kingdoms, but also among smaller societies like the Owambo kingdoms or along the Kavango river, rainmaking paramount chiefs gained the status of sacred or divine kings and were thus given the term *kalunga* as praise name (VANSINA 2004; SALOKOSKI 2006; Seifert, forthcoming).
- [5] In many cases, these extractions deal with those four episodes described above in detail. Furthermore, these extractions are more often involved in type combinations or act as parts of combined types than the full-plot versions.
- [6] Not, however, in an unsophisticated way as an unidimensional expression of the threatenings of wilderness, as it was criticized by GEIDER (2002), but as a complex and multidimensional social phenomenon, acting as an antagonist to the hero and representing environmental problems a society has to cope with.
- [7] SCHMIDT (1970, 1977) and WEHSE (1979) provide impressive examples for adaptation and localization.

REFERENCES

- BOLLIG, M. (Ed.) 1997. "When war came the cattle slept...". Himba oral traditions. — Cologne, Rüdiger Köppe, *History, cultural traditions and innovations in southern Africa*, 1.
- BRINKMAN, I. 1999. Violence, Exile and Ethnicity. Nyemba Refugees in Kaisosi and Kehemu (Rundu, Namibia). — *Journal of Southern African Studies*, 25(3): 417-439.
- BRINKMAN, I. (Ed.) 2001. Singing in the bush. MPLA songs during the war for independence in South-East Angola (1966-1975). — Cologne, Rüdiger Köppe, *History, cultural traditions and innovations in southern Africa*, 16.
- BRINKMAN, I. 2007. Writing, oral traditions and the construction of ethnic identities in North and South-East Angola. — Manuscript of a talk held at the international col-

- loquium "Language and ethno-history in southern Africa: Insights from twelve years of research experience – Emerging research perspectives" (Königswinter, March, 28-30, 2007).
- BRINKMAN, I. & FLEISCH, A. (Eds.) 1999. Grandmother's footsteps. Oral tradition and South-East Angolan narratives on the colonial encounter. — Cologne, Rüdiger Köppe, *History, cultural traditions and innovations in southern Africa*, 7.
- DAMMANN, E. 1957. Studien zum Kwangali. Grammatik, Texte, Glossar. — Hamburg, Cram, de Gruyter & Co, *Abhandlungen aus dem Gebiet der Auslandskunde*, 63. Reihe B. *Völkerkunde, Kulturgeschichte und Sprachen*, 35.
- DAMMANN, E. 1959. Kwangali-Texte. Bearbeitet und Herausgegeben von Ernst Dammann. — *Afrika und Übersee (AuÜ)*, 43: 201-227.
- DAMMANN, E. & TIRRONEN, T. E. 1975. Ndonga-Anthologie. — Berlin, Dietrich Reimer *Afrika und Übersee (Suppl.)*, 29.
- FINNEGAN, R. H. 1970. Oral literature in Africa. — Nairobi, Oxford University Press, *The Oxford library of African literature*, 1.
- FLEISCH, A. 1994. Die ethnographische und linguistische Situation in Angola. — In: KUDER, M. & MOHLIG, W. J. G. (Eds.), Angola. Naturraum, Wirtschaft, Bevölkerung, Kultur, Zeitgeschichte und Entwicklungsperspektiven. Munich, Cologne & London, Weltforum, *Afrika Studien*, 122: 85-133.
- FLEISCH, A. 2000. Lucazi grammar. A morphosemantic analysis. — Cologne, Rüdiger Köppe, *Grammatical Analysis of African Languages*, 15.
- FLEISCH, A. & MOHLIG, W. J. G. (Eds.) 2002. The Kavango peoples in the past. Local historiographies from northern Namibia. — Cologne, Rüdiger Köppe, *History, cultural traditions and innovations in southern Africa*, 14.
- GEIDER, T. 1990. Die Figur des Oger in der traditionellen Lebenswelt der Pokomo in Ost-Kenya. 1. Analytischer Teil, 2. Dokumentationsteil. 2 vols. — Cologne, Rüdiger Köppe, *Wortkunst und Dokumentartexte in afrikanischen Sprachen*, 1.
- GEIDER, T. 2002. Oger. — In: RANKE, K. et al. (Eds.), *Enzyklopädie des Märchens. Handwörterbuch zur historischen und vergleichenden Erzählforschung*. Vol. 10. Berlin & New York, de Gruyter, pp. 235-249.
- GEIDER, T. 2003. Motivforschung in Volkserzählungen der Kanuri (Tschadsee-Region). Ein Beitrag zur Methodenentwicklung in der Afrikanistik. — Cologne, Rüdiger Köppe, *Wortkunst und Dokumentartexte in afrikanischen Sprachen*, 17.
- GLINGA, W. 1990. Literatur in Senegal. Geschichte, Mythos und gesellschaftliches Ideal in der oralen und schriftlichen Literatur. — Berlin, Dietrich Reimer.
- HASAN-ROKEM, G. 2002. Ökotyp. — In: RANKE, K. et al. (Eds.), *Enzyklopädie des Märchens. Handwörterbuch zur historischen und vergleichenden Erzählforschung*. Vol. 10. Berlin & New York, de Gruyter, pp. 258-263.
- HONKO, L. 1981. Four forms of adaptation of tradition. — In: HONKO, L. & VOIGT, V. (Eds.), *Adaptation, change, and decline in oral literature*. Helsinki, Suomalaisen Kirjallisuuden Seura, *Studia Fennica*, 26: 19-33.
- KOSE, E. & SEIFERT, M. (forthcoming). Your belly is my smelting stove. Slags, folktales, and the reintroduction of iron working along the central Kavango. — In: MOHLIG, W. J. G., SEIDEL, F. & SEIFERT, M. (Eds.), *Contact scenarios, speaker strategies, and language change in Africa*. Cologne, Rüdiger Köppe, *SUGIA*, 20.
- LARSON, T. J. 1994. Bayeyi and Hambukushu tales from the Okavango. — Gaborone, The Botswana Society.

- LOEB, E. M. 1951. Kuanyama Ambo folklore. — *Anthropological Records*, **13** (4): 289-335.
- MOHLIG, W. J. G. 1986. Grundzüge der textmorphologischen Struktur und Analyse afrikanischer Erzählungen. — *Afrikanistische Arbeitspapiere (AAP)*, **8**: 5-56.
- MOHLIG, W. J. G. 1989. Sprachgeschichte, Kulturgeschichte und Archäologie. Die Kongruenz der Forschungsergebnisse als methodologisches Problem. — *Paideuma – Mitteilungen zur Kulturkunde*, **35**: 189-196.
- MOHLIG, W. J. G. 1995. The architecture of Bantu narratives. An interdisciplinary matter analysis of a Dciriku text. — In: TRAILL, A., VOSSEN, R. & BIESELE, M. (Eds.), *The complete linguist. Papers in memory of Patrick J. Dickens*. Cologne, Rüdiger Köppe, pp. 85-113.
- MOHLIG, W. J. G., SEIDEL, F. & SEIFERT, M. (forthcoming). Contact Scenarios, Speaker Strategies, and Language Change in Africa. — Cologne, Rüdiger Köppe, *SUGIA*, **20**.
- MOHLIG, W. J. G., SEIDEL, F. & SEIFERT, M. (forthcoming). Closing the gap between language history and ethno-history: an interdisciplinary challenge. — In: MOHLIG, W. J. G., MENZ, G. & BUBENZER, O. (Eds.), *Convergence of sectoral and cross-sectoral methodologies in interdisciplinary research – examples from the ACACIA-Project*.
- MUDIMBE, V. Y. 1988. *The invention of Africa: gnosis, philosophy, and the order of knowledge*. — London, James Currey.
- SALOKOSKI, M. 2006. *How kings are made – how kingship changes. A study of rituals and ritual change in pre-colonial and colonial Owamboland, Namibia*. Dissertation. University of Helsinki. — Helsinki, Helsinki University Press, *Research Series in Anthropology*, **8**. <http://ethesis.helsinki.fi/julkaisut/val/sosio/vk/salokoski/howkings.pdf>
- SCHMIDT, S. 1970. Europäische Volkserzählungen bei den Nama und Bargdama. — *Fabula*, **11**: 32-53.
- SCHMIDT, S. 1977. Europäische Märchen am Kap der Guten Hoffnung des 18. Jahrhunderts. Ein Rekonstruktionsversuch der AaTh-Typen 300–1199 anhand der Überlieferungen in Südwestafrika. — *Fabula*, **18**, 40-74.
- SEIFERT, M. (forthcoming). "Derjenige, der sich selbst erschaffen hat..." Motivuntersuchungen zu Heldenerzählungen aus Nordnamibia und Südafrika. — Cologne, Rüdiger Köppe.
- VANSINA, J. 1985. *Oral tradition as history*. — Madison, Wis., University of Wisconsin Press.
- VANSINA, J. 1990. *Paths in the rainforest. Toward a history of political tradition in Equatorial Africa*. — London, James Currey.
- VANSINA, J. 2004. *How societies are born. Governance in west central Africa before 1600*. — Charlottesville, Vir., & London, University of Virginia Press.
- WEHSE, R. 1979. Cinderella (AaTh 510A). — In: RANKE, K. et al. (Eds.), *Enzyklopädie des Märchens. Handwörterbuch zur historischen und vergleichenden Erzählforschung*. Vol. 2. Berlin & New York, de Gruyter, pp. 39-57.
- WEIDTMANN, N. 1998. Kann Schriftlichkeit fehlen? Afrikanische Weisheitslehren im interkulturellen Dialog. — *Polylog: Journal for Intercultural Philosophy*, **1**. <http://them.polylog.org/3/awn-de.htm>

Walking and Living: The Ambiguity of the Sacred*

by

Laurence CUELENAERE**

KEYWORDS. — Linguistic Anthropology; Aymara; Bolivian Highlands; Walking; Belief.

SUMMARY. — Many Aymara (inhabitants of the Andean region) use pedestrian roads on a daily basis to go to school, herd cows, llamas or sheep, venerate their ancestors or go to a feria'. This paper considers the conjunction of 'walking' and 'living' in Aymara. The Aymara verb for walking also means living, which suggests an interesting, yet semantically ambiguous, relation between living and the activity of walking. Inspired by reflections in linguistic anthropology unsettling the privileging of speech/sound over language, and language over the *schéma corporel*, I'll consider walking as an object of study. I'll first illustrate the conceptualization of landmarks and further show how, by way of the sacred, walking engages larger epistemological fields such as historical discourse, political discourse and daily practice or ways of doing.

*
* *

I'll look at the conjunction of 'walking' and 'living' in Aymara, a language spoken on the Bolivian Altiplano by more than one million speakers or 25 % of the total Bolivian population. 'Sarnaqaña' in Aymara means 'walking' and 'living'. In exploring how this polysemic occurrence is constituted I separate 'walking' 's primary sense, namely physical motion or movement between two places from its morphological richness and grammatical use of the word referring to 'walking'. If this harsh separation gives the impression that a stringent distinction can be made it is also backed by the idea that motion and language are intrinsically related. In this presentation I'll look at the walking ground and its conceptualization as a way to set the scene for further analysis of the activity of walking, language, belief and spiritual realm. In thinking of motion as constituting the organic aspect of talking, language appears to have the structure of motion and other ramifications rather than a tracing or Saussurian transmission of content between two individuals.

* Paper presented at the International Symposium "Expressions of Traditional Wisdom" (Brussels, 28 September 2007).

** PhD Candidate, UC Berkeley, Department of Anthropology.

I conducted my dissertation research between Lake Titicaca and the city of La Paz. Some say these are the toughest places to live. The region is characterized by high altitude, frost, harsh wind, dry food — potatoes, salted llama meat and bread — and humble living conditions — no tap water nor electricity. Overall, the Altiplano can be divided into three overarching spaces, namely: the astir cities of La Paz and El Alto and the 'campo'. The cities of El Alto and La Paz are seen as magnets for people from the Altiplano and the valleys who are looking for work or pursuing commercial activities.

Michel de Certeau sociologically sensed the relation between language and motion. To him ways of walking are necessarily related to any process of representation. In "L'Invention du Quotidien" he says, I quote "La marche semble donc trouver une première définition comme espace d'énonciation." (DE CERTEAU 1980, p. 181). As such de Certeau proposes that, rather than a house, a wall, a city or a building, walking would create, define and elaborate the contours of the space where people live and speak. The enunciation — *énonciation* — refers to the instant of speaking. While it is generally assumed that, when interacting, speaker and hearer establish the conditions or the ground for the production of speech (and its corresponding semantic form), the definition of *espace d'énonciation* in terms of the activity of walking suggests a most interesting shift: the 'walker' (rather than the speaker and hearer) creates the conditions for the production of speech and corresponding semantic form. As William Hanks pointed out, the notion of narrative entails both the actual act of expressing something (by means of written word or speech) *and* its corresponding semantic form. In the same spirit, the linguist Teofilo Laimé thoroughly analysed four hundred transitive and intransitive verbs of movement imbricated in Aymara in order to discover how movement is being represented in Aymara morphology. The word 'walking' can thus be grasped both as literal movements in and between places covering a territory, and as in terms of its morphology and grammatical usage. This differentiation is important for realizing that the considered polysemic occurrence assumes both corporeal motion and linguistic features. In what follows, I will therefore start by exploring what determines the activity of walking, after which I will explain how the action of walking lead me to the study of Waka's, those rocks strong with spirit.

The Walked Ground

One of the most extraordinary aspects of the Altiplano is its apparent vastness. Within each region different patterns (use of the land, territorial configuration or seasonal transhumance) left their imprints on both the land and the inhabitants of this same region. Research in such a vast and open space as the Altiplano has been significant in the sense that people are continually moving without having a well defined paved path, predictable map or itinerary showing the way, which

suggests a spiritual ‘map’. And as a landscape ‘results from the establishment of a perspective, a directing of the gaze’ (Nancy 2005, p. 53) each person, by inhabiting or traversing a region, perhaps also articulates his own self. In order to grasp the surroundings of motion or what delineates motion *as such* on the Altiplano I’ll show why and how two persons take the same direction without pre-meditation nor indications on the ground. To understand the intrinsic order of the Altiplano without the existence of a visual map it is essential to consider two major landmarks. First, the mountains (achachillas, also called wak’as) emerging from the horizon and secondly, the pampa (pachamama) or the earth stretching out in front of those mountains. Thérèse BOUYSSÉ-CASSAGNE (1986) in “Urco and Uma: Aymara concepts of space” argued that the former represents masculinity, while the latter represents the feminine. While those two poles conspicuously mark the landscape they also encompass the wider range of possible paths. Those landmarks are relevant in so far as they divide the corporeal field into a configuration where subjects and objects can be located. Those landmarks, by analogy, are conceptually transposed to the gendered division of domestic space where daily interaction occurs. While the man sits higher on a stone or a chair, the woman sits closer to the ground, a little bit at the back (fig. 1). As such, it can be argued that this duality between land and mountains (fig. 2) frames conceptual thought.



Fig. 1.



Fig. 2.

However, wak’as are not only confined to high mountains. They are associated with smaller rocks marking the location of a ‘force’. They either adopt an irregular form or embody the shape of an animal (like a condor, a frog) or a human being. They usually cannot be removed, yet when they are a heap of stones they become destructible. Whilst smaller waka’s are associated with a particular region and community, the major waka’s are operating on and across the entire Altiplano, invoked by healers during healing sessions. Those important and most feared wak’as are known as bearers of powerful ‘energy’. The large array of meanings associated with a wak’a is very complex for it is in a continual state of variation. I will therefore distinguish three fields of reflection. First, the

archeological and ethnohistorical discourse, in which wak'as are objects of study, hardly ambiguous and always defined with respect to the Spanish invasion. Second, the Bolivian political discourse, in which wak'as are never acknowledged and third, the presence and popularity of wak'as in daily life. An underlying topic, hence, is why political discourse and accompanying cultural claims are systematically ignoring the wak'as.

Historical Discourse

The catholic church called them 'false gods'. The catholic doctrine has defined wak'as as malevolent and dangerous objects which are to be destroyed. Indeed, to missionaries (Dominicans, Franciscans and, subsequently, Jesuits) and catholic chroniclers it was obvious that wak'as, represented the devil. With the goal of localizing and further extirpating wak'as missionaries compiled lists of 'sacred' places. The codification of dangerous, malevolent places and the identification of the wak'as with the devil were integral parts of the colonial project. De Albornoz' "La instrucción para descubrir todas las guacas del Perú con sus camayos y haciendas" is the first published instruction of the 'extirpation,' coinciding with the advent of the Third Council in 1583. The nature of the wak'as, in this work, was understood in terms of *semillas del Diablo*.

Distinction between 'good' and 'evil' indicates how deeply distorted the Aymara were perceived. In 1564, however, viceroy Toledo was confronted with a most intriguing indigenous messianic movement that lasted ten years. In one of his letters to king Felip II he revealed that the 'taki onqoy' had gained thousands of active adherents and that the movement was infinitely spreading. The Taki Onqoy, as a hint of the eternal return responding to the 'colonial situation', was grounded in the idea that the floating wak'as would literally seize life. Taki Onqoy in Quechua means 'the song-dance of sickness' or the dance of the possessed, as a funeral world of terror. The dance spiritually purified the possessed, and, like a contagious fever, could seize anyone.

Most prominent within this spirit of the diocese of Lima is Bernabé Cobo's work (1653) "Relación de las Huacas" (Report of the shrines) [1]*, in which he sets forth a study of the distribution and regional division of the wak'as. Cobo described some three hundred and twenty-eight wak'as along forty lines in and around Cusco covering the four parts of the former Inca Empire, including Qollasuyu, nowadays the Bolivian Altiplano. Bernabé Cobo virtually surveyed a space reaching from current northern Peru to the Altiplano, which corresponds to the former four parts of the Inca Empire, namely Chinchasuyu, Antisuyu, Collasuyu and Cuntisuyu. As they exist in different places they also form a type

* The number in brackets [] refers to the note, p. 327.

of geographically mobile 'spiritual network'. The systematic distribution of the wak'as along lines and the physical portioning of the Inca Empire puts into a sharp focus the fact that those roads / lines do frame a network traveled by foot. So, the geographical distribution of those places also suggests that motion along roads was spiritually charged. The ethno historical discourse accepts wak'as as part of the story of resistance and pre-Columbian memory. That is, their existence is an integral part of the same historical process which saw indigenous movements rising. In their essential aspects, therefore, wak'as represent the indigenous attempt to actualize the urge for autonomy and autogovernance. Seen as such, as part of history, they could be defined as constituting a rational ideological framework for realizing indigenous political and spiritual ends. But this is not how wak'as made their presence felt. As mentioned above, they have been the cause of a most destructive movement.

In a chapter dedicated to the Taki Onqoy, Steve Stern mentions how this 'most damaging' movement held the message that a pan-Andean alliance would rise against the Christian God and defeat him. The wak'as destroyed by the church came back to life and out of the destructive cataclysm would come regeneration.

Political Discourse

It is striking that waka's are never mentioned when Aymara intellectually credit their own culture. Despite Felipe Quispe's (2006) explicit reference to wak'as in his book "Mi Captura" no public discourse elaborates the word. Indeed, the public sphere is 'free' of wak'as and this despite a history of extirpation and, as I have been able to record, widespread talk about those. This seems a contradiction in terms. As if the political and intellectual discourse are a direct continuation of the Christian's extirpation. Jacques Derrida would name this *mondialatinization* or a political discourse inflected by Christian discourses. What does this apparent poverty or absence of terminology reflect? One may wonder to what extent this absence of wak'as would reiterate traditional patterns? In March 2006, three months after the new government, the *Movimiento al Socialismo*, or MAS, came to power, several proposals to redraw the Bolivian territory circulated widely in the press. So, even though the wak'as are geographically distributed forming a sort of 'mythical landscape' and henceforth also delineate the 'territory' where the Aymara are living and moving, the reorganization of the 'territory of the country' is thought of in terms of a traditional ideology. Now, the next question is what a map would look like if wak'as were taken into consideration.

Figure 3 is somewhat of a draft for Nina ('Nina' means 'fire' in Aymara) drawn in a spontaneous — enchanting — gesture making his narrative visible. Nina is an apprentice Yatiri (wise man). The contours of Lake Titicaca towards the Bolivian Altiplano are visible, with smaller hills on both sides of the shores. The city of La Paz is represented on the right by the initials LP. Several major wak'as

appear: the Llampu, Chacaltaya, waki, Isla del Sol, Isla de la Luna, Chua, Pachiri, Qallija and Uma Wak'a. The red lines on the paper show how the places embodying wak'as are connected with one another. And while several trajectories between places are logically possible, this map illustrates the trajectory that Nina followed. As his narrative develops, place names become significant. For instance 'Waki' (currently written Guaqui) in Aymara means 'working contract' and 'wakichaña' means 'preparing'. As such, each yatiri, no matter where he/she is coming from, is initiated in Waki. By using place names Nina suggests an edge, a limit or a being in the margin but never beyond. From higher hills and mountains the horizon is generally perceptible in its entirety. Hence, the horizon spreads along the mountain peaks emerging as landmarks throughout all parts in the visual field. As such the viewer is capable of connecting the wak'as between the marks on the horizon and of acquiring an idea of the extension of the land corresponding to the former Tawantinsuyu (Pusisuyu in Aymara) (or the territory that Bernabé Cobo surveyed five hundred years ago). As such, the wak'as no longer are these amorphous fearful entities given without being familiar with that which so many missionaries and social scientists have been struggling with. The connections are attributed to the wak'as, which, in turn, establish a large-scale walking ground. In effect, the wak'as represent an ideal energetic emanation of the ancestors through which a person must pass to transform and change his / her or someone else's state.

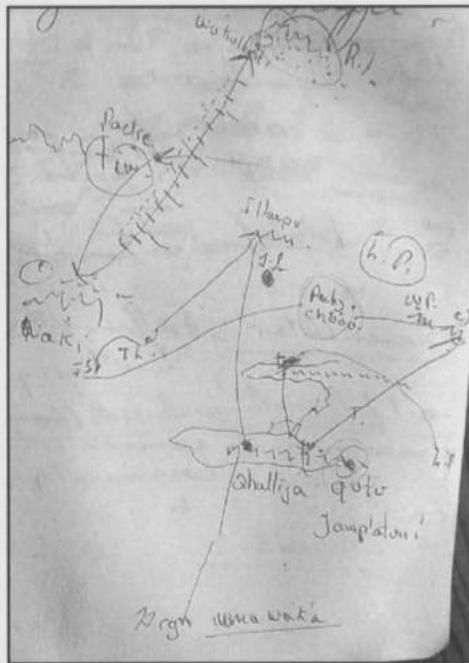


Fig. 3. — Nina, June 16, 2007, La Ceja.

The Establishment of Shared Coordinates

Wak'as are feared, respected and venerated. The caution with respect to the wak'as runs through the utterances. The speaker, most strikingly, uses the verb 'muyt'ana' when talking about his attitude with respect to wak'as. The verb 'muyt'ana' means 'walking around in order to avoid.' The speaker hereby refers to a trace, an intentional curve on the ground. In this context, walking is not just walking, but walking around in order to avoid, not merely avoiding but avoiding in a particular manner with a particular purpose. Wak'as thus induce a trajectory upon the speaker's intentions. And by referring to the ancestors (or the achachillas / awkis) the speaker situates himself within a broader discourse mediated by the ancestor's speech. Hence, while wak'as cause random sicknesses and misfortunes they also heal and protect. And finally, in an empirical élan, the speaker provides an example of a 'pagan' man who did not believe in wak'as and who was therefore persecuted by malediction.

(1)

R w'akanakata kamsasma

E janiwa muyt'awayañaya respetapjiya

R kunatsa repetapjix

*E ukaya, ukaruy jiwaxax uñatattanxa
awkisanakaw ukhamay yatichawayapxistux.*

*Yaqhipa wak'anakax chhatatarakiya ukata usuntayiya
arkapuniya maynir mayniruy usuntayixa ma familianxa*

*ukata tispachayasipjix
ukata walikirakiya, ch'amaya apaqasiñaxa.*

*Ma jaqiw utji, ukata janiya cruykitix ukata arkiya
sapa mara arkapuniya.*

R. *Wak'anakat kamsasma?*

("¿Qué puedes decir de los wak'as?")

Literal glosses:

Wak'anakat about the wak'as
kamsasma? what can you say?

E janiwa, muyt'awayañaya, respetapxiya

("a los wak'as no hay que acercarse al ir por el camino y se respeta.")

Literal glosses:

Janiwa, No

muyt'awayañaya, to have to walk around in order not to encounter them
respetapxiya (they) respect them

R kunats respetapxi?

(“¿Por qué respetan?”)

Literal glosses:

kunats why
respetapxi? do they respect them?

*E ukaya, ukaruy jiwasax uñatattanxa, awkinakasaw ukhamay
yatichawayapxistux.*

(“Eso es, así nos han enseñado nuestros padres y a eso hemos despertado.”)

Literal glosses:

ukaya, That is so
ukaruy into that
jiwasax we all
uñatattanxa, we have opened the eyes (and saw in each direction) (we
 were born)
awkinakasaw our fathers
ukhamay in that way
yatichawayapxistux. (they) taught us

*Yaqhipa wak'anakax chhaqhatarakiya, ukata usuntayiya,
arkapuniya, maynir mayniruy usuntayixa mä familianxa*

(“Las wak'as hacen enfermar a uno y a otro de los miembros de la familia.”)

Literal glosses:

Yaqhipa wak'anakax some wak'as
chhaqhatarakiya, (they) are lost
ukata usuntayiya, then (they) cause sickness
arkapuniya, (they) follow
maynir mayniruy to one or to the other one
usuntayixa (they) cause sickness
mä familianxa in one family

Ukat tispachayasipxix ukata walikirakiya, ch'amaya apaqasiñaxa.

(“Luego hacen despachar y ya se sanan, pero es difícil bajar esto.”)

Literal glosses:

Ukata walikirakiya, there-after (one person) is healthy
ch'amaya apaqasiñaxa. leaving the sickness is hard

Ma jaqiw utji, ukata janiya criykitix ukata arkiya sapa mara arkapuniya.

(“Existe un hombre que no cree pero le siguen todos los años.”)

Literal glosses:

Ma jaqiw utji,	there is a man (or woman)
ukata janiya criykitix	(he or she) does not believe
ukata arkiya	then (the wak’a) pursues him (or her)
sapa mara arkapuniya.	each year he pursues him (or her)

Concluding Remarks

In this presentation I have taken the activity of walking and the ‘use of space as creation of space’ as the ground for the production of speech. As such, I started with a polysemic occurrence or the correspondence of meaning between ‘walking’ and ‘living’ and I wondered what could possibly determine this conjunction. The ‘performative sphere’ of the wak’as made it possible to conceive of walking and, by implication, of its grammatical use and morphology as semantically rich in terms of belief and history. Wak’as definitely appear to be a ‘source of power’ through which a person can be transformed, cursed or healed. This transformation assumes a *prise de contrôle* or a becoming familiar with the wak’as and the connections between them. And as it is not unusual for the anthropologist to describe a relationship with an informant evolving within an ethnographical discourse that bridges two places of origin. This presentation may have suggested that an ethnographical discourse is also at odd with a traditional discourse refuting any visions of change.

NOTE

[1] Polo de Ondegardo is the original author of the treatise.

REFERENCES

- BAUER, B. S. 1998. *The Sacred Landscape of the Inca, the Cusco Ceques System*. — Austin, University Press of Texas.
- BOUYSSÉ CASSAGNE, T. 1986. *Urco and Uma: Aymara concepts of space*. — In: MURRA, J. V. *et al.* (eds.), *Anthropological history of Andean polities II*. London, CUP/EMSH, Vol. II, pp. 201-227.
- BRIGGS, L. 1981. *Missionary, Patron, and Radio Aymara*. — Ed. Hardman, University Press of Florida, *The Aymara Language in its Social and Cultural Context, a Collection of Essays on Aspects of Aymara Language and Culture*.
- DE CERTEAU, M. 1980. *L’invention du quotidien. Acte de faire*. — Paris, Union Générale d’Editions.

- DELEUZE, G. & GUATTARI, F. 1987 [1980]. *A Thousand Plateaus*. — University of Minnesota Press (translation by B. Massumi).
- DUVIOLS, P. 2003. *Sobre la Extirpación de la Idolatría en el Perú*. — Lima, Procesos y visitas de Idolatrías Cajatambo, siglo XVII, IFEA.
- HANKS, W. 2000. *Intertexts: writings on language, utterances and context*. — Maryland, Rowman & Littlefield Pub.
- HARDMAN, M. 1985. *The Imperial Language of the Andes*. — *In: Language and inequality*, Mouton, Ed. Wolfson Nessa & Manes Joan, pp. 183-194.
- LARA, J. 1966. *La Cultura de los Inkas*. — La Paz (Bolivia), Los Amigos del Libro.
- PARSSINEN, M. 2003 [1993]. *Tawantinsuyu. El Estado Inca y su organización política*. — *Travaux de l'Institut Français d'Etudes Andines*, T. 153 (traducido al castellano por A.-M. Stahl de Montoya y P. Rosselló de Moya).
- PARSSINEN, M. & JUKKA, K. 2004. *Textos Andinos, Corpus de textos khipu incaicos y coloniales*. — Instituto Iberoamericano de Finlandia y Universidad Complutense de Madrid.
- STERN, S. 1982. *Peru's Indian People and the challenge of Spanish Conquest, Huamanga to 1640*. — University of Wisconsin Press.
- TAYLOR, W. & MILLS, K. 1998. *Colonial Spanish America, a Documentary History*. — Rowman & Littlefield.
- WACHTERL, N. 1976. *Rebeliones y Milenarismos*. — *In: Los Vencidos. Los Indios del Perú frente a la Conquista Española (1530-1570)*. Madrid, Alianza Editorial.
- ZUIDEMA, T. 1964. *The ceque system of Cusco. The social organization of the capital of the Inca*. — Leiden, Brill.

Traditional Wisdom as Literary Artefact: The Example of D. O. Fagunwa's Prose Narratives*

by

Abiodun ADENIJI**

KEYWORDS. — Traditional; Wisdom; Artefact; Fagunwa.

SUMMARY. — The Bible says that wisdom is the principal thing deserving all assiduity in its acquisition. The Yoruba of South-West Nigeria appear to adumbrate the biblical notion of wisdom in their averment that the proverb (wisdom couched in the people's wise sayings, maxims or adages) is a horse to words; when the word (meaning) becomes elusive, the proverb searches it out. To the Yoruba, therefore, the proverb is a repository of traditional wisdom transmitted through the oral tradition in various forms and, as such, has universal applicability. As expressions of traditional wisdom, the Yoruba believe that there is no situation which the proverb cannot address. Creative writers of Yoruba extraction often appropriate the wide applicability of proverbs to all situations in their imaginative representations of the travails of man in contemporary milieu, irrespective of the linguistic medium adopted. Daniel Olorunfemi Fagunwa is an example of those writers who have utilized the multifaceted nature of Yoruba proverbs as a literary device that enhances their creative enterprise.

Introduction

The Yoruba of South-West Nigeria regard the proverb as a valuable resource in interpersonal and intergroup communications. The primacy accorded to the proverb in the Yoruba language is evidenced by its unrestricted mobility across all language activities and across various strata of Yoruba society. Given its unlimited applicability through metaphorical reference, the proverb has long been a major weapon in the arsenal of Yoruba traditional artistes and writers who utilize this vital resource in their imaginative envisioning of their people in contemporary milieu. D. O. Fagunwa, the first Yoruba to write and publish a series of prose narratives in the Yoruba language, is the epitome of writers whose works manifest the undying felicity of the proverb in the literary enterprise.

* Paper presented at the International Symposium "Expressions of Traditional Wisdom" (Brussels, 28 September 2007).

** Lecturer, English Department, University of Lagos (Nigeria).

The aim of this paper is to investigate the connection between Yoruba traditional wisdom embedded in proverbs and the creative imagination in two of Fagunwa's Yoruba-language classics: "Ogboju Ode Ninu Igbo Irunmole" (The Brave Hunter in the Evil Forest) and "Igbo Olodumare" (The Forest of God). The thesis of the paper is that proverbs, in which Yoruba traditional wisdom is expressed, do not only serve as linguistic felicities — the proverbial salt of speeches —, but are invaluable assets to creative writers in such formal aesthetic components as thematic focus and characterization.

Proverbs as Reinforcement of Thematic Preoccupations

"Ogboju Ode" is the story of a brave hunter, Akara-Ogun, and his travails in the "Evil Forest", while "Igbo Olodumare" (The Forest of God) is the story of Akowediran, Akara-Ogun's hunter-father, and his exploits in the forest of God. One of the perennial themes in the two narratives is that life is an endless struggle or battle for survival. This theme is the focus of the following proverb from "Ogboju Ode":

"Bi owe bi owe ni a nlu ilu ogidigbo, ologbon ni ijo, omoran ni si imo."

"The Ogidigbo drum is beaten in a proverbial manner; only the wise can dance to its rhythm; only the discerning can understand its message."
(*"Ogboju Ode"*, p. 1.)

It is interesting that "Ogboju Ode" begins with this proverb, which encapsulates the subject matter of the narrative and initiates one into the major thematic preoccupations of the writer. In his compilation of Yoruba proverbs, J. B. Agbaje translates the proverb as follows: "The war drum is cryptically beaten like a proverb; it is only the wise who can dance to it; and the informed who can decode it." (AGBAJE 2005, p. 50). Wole Soyinka translates the proverb this way: "... like the sonorous proverb do we drum the *agidigbo*; it is the wise who can dance to it, and the learned who understand its language." (SOYINKA 1968, p. 7).

According to Kola AKINLADE (1987), the "Ogidigbo drum is used to transmit messages from afar during a war." Consequently, only the drummer and his allies in the other village could decode its message. Hence the reliability of the *agidigbo* as a long-distance transmitter during war since enemy troops can only hear but would not understand its message. At a first level of interpretation, therefore, the theme of life as a battle for survival is broached very early in the narrative because the drummers of *agidigbo* and the decoders are engaged in a war. Furthermore, the proverb sets off an expectation of violent conflicts, which is demonstrated in the protagonist's many battles with wild animals, spirit-beings and monsters that inhabit the evil forest. For example, Akara-Ogun fights with Agbako (Misfortune), a terrible monster with sixteen eyes (*"Ogboju Ode"*, p. 13), and Ijamba (Danger) (*"Ogboju Ode"*, p. 41). On their way to Langbodo, Kako and Elegbede-Ode (two brave hunters) also fight with Eru (Fear), a monster with four heads (*"Ogboju Ode"*, p. 50).

In essence, this proverb confirms Fagunwa's thematic focus that in life a man requires wisdom, knowledge and understanding to be a winner. Since wisdom is not acquired in one day, this proverb indirectly emphasizes Fagunwa's secondary theme that patience and perseverance are necessary virtues to be possessed by anyone aspiring to be successful in life.

Proverbs as Reinforcement of Characterization

So far, this paper has examined the contribution of proverbs to Fagunwa's thematic interests in his prose narratives. This section examines how proverbs are utilized by Fagunwa to enhance his characterization. In other words, this section is devoted to the assessment of the kind of proverbs used by selected characters, or spoken about such characters, that provide insight into their psyche as fictive persons.

Olowoaiye, the hero of "Igbo Olodumare", is depicted as a brave but boastful hunter, strong — physically and in the power of charms. The proverbs ascribed to him by the author confirm all these characteristics. Shortly after entering the dreaded forest of God, Olowoaiye demonstrates his bravery and prowess by fighting with a monster, Esu-Kekere-Ode. The following proverbs, spoken by Olowoaiye during the verbal sparring that precedes the physical battle, reveal his boastful nature:

"Agba ti o ri ejo ti ko sa ara iku l'onyaa."

"An adult who sees a snake and does not run from it is courting disaster."
("Igbo Olodumare", p. 16; AJIBOLA 1947, p. 43.)

"Eranko ti o ba fi oju di ode ehin aro ni yio sun."

"Any animal that takes a hunter for granted will rest behind the fire-place."
("Igbo Olodumare", p. 16.)

"O gboju le ogun fi ara re fun osi ta."

"A man who pins all his hope on an inheritance is courting poverty."
("Igbo Olodumare", p. 16.)

In the proverbs above, Olowoaiye boasts of his invincibility by comparing himself to a snake and a hunter, which he is in reality. By the same token, he compares Esu-Kekere-Ode to a powerless man and an equally powerless animal. In the last proverb, he derides Esu-Kekere-Ode as a lazy man who cannot work for himself, but depends on the legacy his father would leave him. In short, Olowoaiye is warning the spirit that he is no match for him.

Generally, the Yoruba expect hunters to be boastful because words are regarded as weapons in a war situation. By boasting of his prowess, the hunter not only dampens the morale of his opponent, but also boosts his own. Moreover, words take on a powerful edge when spoken as incantations by the hunter. For these two reasons, Olowoaiye's boastful nature is in consonance with his status as a professional Yoruba hunter.

Findings

The analysis of the proverbs in Fagunwa's prose narratives yields the following tentative findings.

1. Traditional wisdom embedded in proverbs is a veritable tool of art in the sense that a great artist manipulates it to enhance not only the content but the formal properties of his works as well. This finding is very important because it puts to rest the controversy about the function of proverbs in a work of art. Some critics argue that proverbs merely help to give a work of art, especially of African origin, "local colour." Others believe they are mere linguistic decorations that pin a work to its provenance. But, as this research has shown, proverbs perform more functions than these traditional roles, and are invaluable in every department of literary creation.
2. Another finding is the "transmutability" of proverbs in the literary enterprise. By this I mean that the same proverb could be used to confirm thematic focus and at the same time to accentuate characterization. This has been demonstrated in the analysis above when a proverb inaugurates a thematic preoccupation and simultaneously gives psychological depth to the character that speaks it.
3. Third finding is that the notion of a "stable" meaning, usage or application of a proverb is a contentious one. From our analysis above, it is obvious that the meaning of a proverb is largely dependent on its context, especially in literary texts. For instance, the proverb "*Owo eni ni a fii itun iwa ara eni se*" — "With one's hands we should put straight our own affairs" — ("*Ogboju Ode*", pp. 22-23; AJIBOLA 1947, p. 98) is usually applied in a positive context among the Yoruba. Its moral purpose is to encourage the people to rebuild a battered image. On the surface, that is what Akara-Ogun appears to be doing with the kola nut lobes. However, traditional Yoruba will never encourage disobedience to such ill omens. By being used to confirm disobedience, the proverb has been shifted from a positive to a negative context, with a concomitant change in meaning and function.

Conclusion

Traditional wisdom as shown in proverbs is a valuable tool in the hand of a sensitive artist, such as D. O. Fagunwa. Even though the general perception of proverbs in literary texts tends to see them as "linguistic decorations" and an instrument for establishing "local colour" this study has shown that they can be made to serve at the shrine of creative genius in multifarious ways.

REFERENCES

- AGBAJE, J. B. 2005. The Place of Yoruba Proverbs in the Understanding of Yoruba Philosophy and Education. — *International Journal of African and African American Studies*, 1(5): 48-54.

- AJIBOLA, J. O. 1947 [1969]. *Owe Yoruba*. — Nigeria, Oxford University Press.
- AKINLADE, K. 1987. *Owe Pelu Itumo (A – GB)*. — Ibadan, Longman Nigeria Limited.
- FAGUNWA, D. O. 2005 [1949]. *Igbo Olodumare*. — Ibadan, Nelson Publishers Limited.
- FAGUNWA, D. O. 2005 [1950]. *Ogboju Ode Ninu Igbo irunmole*. — Ibadan, Nelson Publishers Limited.
- SOYINKA, W. 1982 [1968]. *The Forest of a Thousand Daemons: A Hunter's Saga* (Translation of *Ogboju Ode Ninu Igbo Irunmole* by D. O. Fagunwa). — Edinburgh, Hong Kong, Surrey, Thoms Nelson and son Ltd.

$$5 + 5 = 9.$$

Numeric Calculations in Southern India and Eastern Indonesia as Part of Man's World View*

by

Hilde LINK**

I would like to elucidate here, with the help of two examples, the extent to which, in particular cultures right up to the present day, numbers can be the expression of a philosophy or world view and can symbolize the correlation between the macrocosm and the microcosm. In this context the conception of the world is symbolized as starting from the unity of heaven and earth.

One of these examples concerns the system of calculation used by South-Indian temple architects, who start basically from the principle that heaven and earth are to be seen as a unity. This idea assumes concrete form in the building of a house or temple.

The other example comes from eastern Indonesia. In the Moluccas too, and more precisely on Ambon, numbers have an important function in, for example, the erection of a house or in orienting oneself in one's own social system. Here too, numbers are symbols acting to produce a picture of the cosmos, which takes concrete form in the planning and building of a house.

In this paper, I would like to concentrate on the numbers five and nine, which play a crucial role not only in the world view of Dravidian India, but also in that of the people of Eastern Indonesia.

Let us therefore begin with the Dravidian south of India. For instance, in the instructions for both sculptors and architects, and also in texts which give ritual instructions to, for example, priests, the number 5 plays a crucial role.

For (temple) architects, the starting point for any building is the so-called "cosmic man", as he is often called in literature, or *vāstu puruṣa* (fig. 1).

Myths tell us that the *vāstu puruṣa* — who, as such, is sterile — originally climbed down from heaven in order to embrace the earth (KRAMRISCH 1946, p. 49). He is tightly bound to, or merged with, the earth at four plus one points,

* Paper presented at the International Symposium "Expressions of Traditional Wisdom" (Brussels, 28 September 2007).

** Institut für Ethnologie und Afrikanistik, Ludwig-Maximilians-Universität München (Germany)

namely at the four cardinal points and in the centre, the mahāmarma or great vital point, which is the navel of the vāstu puruṣa. The earth is thought of being “four-fold”, that is square, with a centre in the middle. We see that the number 5 is divided into 4 + 1, a mode of thought which finds its expression in, amongst other things, house building in Karnataka (fig. 2).



Fig. 1. — Cosmic man (MICHELL 1977, p. 72).

east
↓

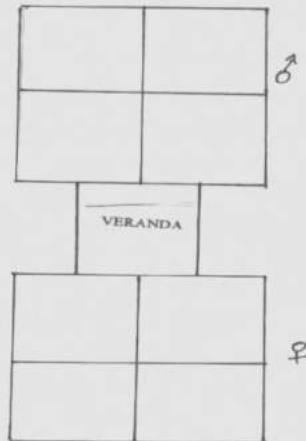


Fig. 2. — Plan of a dwelling house in Karnataka (after SWAMY 1997).

Dwellings in Karnataka frequently have the shape of two unities merged into one, with in the middle the veranda or, more accurately, two verandas. Apart from the veranda, each half of the house consists of four separate units, and in each half lives a family belonging to different social networks. In the middle, the verandas form a meeting place where, amongst other things, discussions take place and common decisions are taken. Here also is the entrance to the house for the members of both families, as well as for guests who are visiting one or the other family. As can be seen in figure 2, each half of the house consists of four parts, plus the meeting place or veranda, which forms the fifth part. Each half of the house consists in itself of 5 (4 + 1) parts, but the two taken together consist not of 10, but of 9 parts.

Now we take a big step to eastern Indonesia, to the island of Ambon, in the Moluccas (fig. 3). Here, and more exactly on Ambon, for which we have the results of some detailed research (ROEDER n.d. 1, 2, 3; 1939; 1948), the numbers 5 and 9 also feature as part of man's world view, although in a somewhat different context from that described above for Dravidian India (LAUBSCHER 1979 – I shall be using his study in what follows).

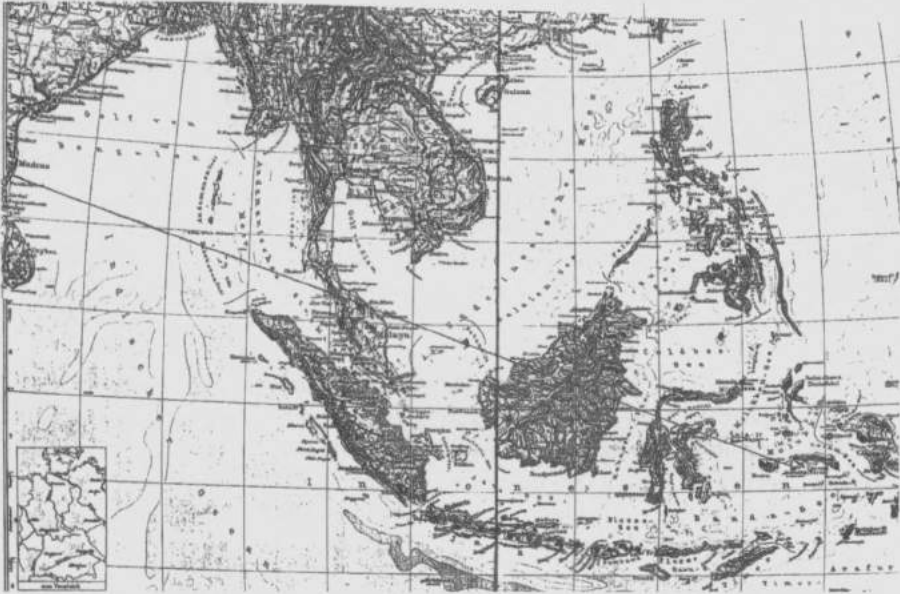


Fig. 3. — South-East Asia.

Let us start with the figure of the sacred or mythical man, the “cosmic man” of Ambon (fig. 4).

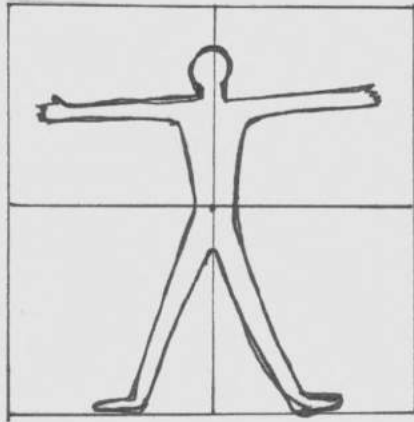


Fig. 4. — World figure (after ROEDER 1937-38).

This figure demonstrates an analogy between myth and the Ambonese classification system, because it is said to be the “figure of the world”. This means that space can be classified by means of this figure, as follows: heaven and earth are bodies, meaning that everything that exists on earth is part of this figure’s body. In order to understand this better, we must examine the creation myth.

The creation of man: in the beginning, the male heaven lies on the female earth. Through an earthquake, heaven separates from earth, the earth opens and the first men come out of her. Heaven has his hands and feet on the earth.

Thus it is clear that the Ambonese think of the world or of man as a unity with several parts, which do not exist as separate parts but are always part of a unity. The fundamental basis of this way of regarding the world and all that exists upon it is man. So this “system man” is the basic concept to which all other things are related.

When we examine this figure (fig. 4), we see that unity is considered to be 1, as the complete man is a unity, and therefore 1. The 4 quadrants are not taken into consideration in this context. On the other hand, the numerical value is simultaneously 5 when the unity (1) is connected together with the 4 quadrants. As long as the different parts, the quadrants, are not taken into consideration, the complete and perfect man remains the unity 1. This is the order of the world.

When building a house, for example, a human being tries to shape his living space in harmony with the origin myth, so that the myth becomes a part of present-day life. Human beings should avoid living in disharmony with the laws of the world.

In order to be able to erect a building, the architect must have knowledge of the order of the world; he must know what the original cosmic order looked like, in order to be able to realize it in his building. House-dwellers entering their

home should not find themselves in disharmony with the totality of the world. This is the reason why a measure has to be found which on the one hand certainly corresponds to the appropriate cosmogram, for example, the world figure, but on the other hand is permitted to meet humanity's earthly needs, for example, the need to live in harmony. A house which is conceived as uniting the separated halves of heaven and earth permits human beings to live ideally in a unity of heaven and earth and therefore to fit into a cosmic order.

Like this people on Ambon conceive their house as being based on the world figure or, more precisely, the merging of two world figures, namely a male and a female. The floor and the four corners of the house, where the four posts touch the earth, correspond to the female progenitor, or earth, on which lies the male progenitor, or heaven, who corresponds to the roof and the four posts of the house, which hold the roof. This correspondence is readily seen in figure 5. The world figure thus serves as a basic model or cosmogram whose use, amongst other things, can be seen in the basic plan of a house, in which the corners of the house not only represent the borders of the domain, but also stand in a relationship with the ancestral couple.

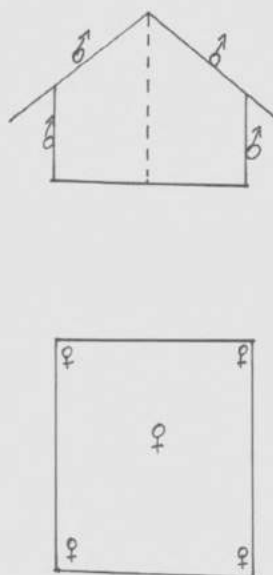


Fig. 5. — Plan of a house on Ambon (LAUBSCHER 1979).

It is clear from this example that the Ambonese way of thinking and the Ambonese classification system follow a cosmological anthropocentrism.

In this system, 5 is the complete being. Man is 5. The world figure is the "scale" by means of which all things which exist on earth are categorized. This

being, however, is sterile. It cannot be the progenitor of other beings. To create a new life two beings are needed: a female 5 and a male 5 (fig. 6).

$$\begin{array}{l} 5 f + 5 m = \\ (4 \text{ quadrants} + \text{old } f \text{ unity}) + (4 \text{ quadrants} + \text{old } m \text{ unity}) = \\ \\ 8 \text{ quadrants} + \text{new } (f \text{ and } m) \text{ unity} = 9 \\ \\ \text{or:} \\ \\ \mathbf{5 + 5 = 9} \end{array}$$

Fig. 6. — Reproductive unity in Ambonese calculation.

These two unities have to merge for the act of generation, *i.e.* come together to form a new unity. To reach the numeric value of this reproductive unity, one counts: 5 (female 5) + 5 (male 5) = (4 quadrants + old [female] unity) + (4 quadrants + old [male] unity) = 8 quadrants + new [female and male] unity = 9. So 5 + 5 = 9.

REFERENCES

- KRAMRISCH, S. 1946. *The Hindu Temple*. — Calcutta, University of Calcutta Press.
- LAUBSCHER, M. S. 1979. *Untersuchungen zur dualismusfrage in Indonesien*. — Tübingen, *Habilitationsschrift* (Unpublished).
- MICHELL, G. 1977. *The Hindu Temple. An introduction to its meaning and forms*. — London, University of Chicago Press, p. 72.
- ROEDER, J. Fieldnotes. *Soya die Atas* (Ambon), 1937-1938 (Unpublished).
- ROEDER, J. 1939. *Levende oudheden op Ambon*. — *Cultureel Indië* (Leiden), 1: 97-105.
- ROEDER, J. 1948. *Ahalatala. Die religionen der inlandstämme Mittelcerams. Ergebnisse der Frobenius-Expedition 1937-1938 in die Molukken und nach Holländisch Neuguinea*. — Bamberg, Meisenbach.
- SWAMY, N. 1997. *Personal communications*. — Pondicherry.

The Role of 'Sentiments' in Liang Chi-Chao's and Tsai Yuen-Pei's Aesthetic Thoughts — Observing the Transition from Traditional Confucianism to Modern Aesthetics*

by

Mei-Yen LEE**

KEYWORDS. — Modern Aesthetic Thoughts; Sentiment; Aesthetic Education; Liang Chi-Chao (1873-1929); Tsai Yuen-Pei (1868-1940).

SUMMARY. — The present paper explores how Liang Chi-Chao's and Tsai Yuen-Pei's theory of sentiment, based on traditional Confucianism and under the influence of western aesthetics, developed a new way to appreciate aesthetic values. In addition, it emphasizes the importance of aesthetic values in order to save the nation in modern China. The topics discussed in the paper include:

- A comparison of Liang Chi-Chao's and Tsai Yuen-Pei's theory in order to understand the meaning of sentiment from introspecting what life is;
- The emergence of human sentiment from a re-examination of arguments between rationality and sentiment;
- The emergence of discussion about sentiment from the perspective of western aesthetics;
- A comparison of Liang Chi-Chao's and Tsai Yuen-Pei's theory in promoting aesthetic education from valuing human sentiments.

Through examining how Liang Chi-Chao and Tsai Yuen-Pei looked at life and human sentiment, it is hoped to get a clearer picture of how they developed their own theories of sentiment and how they applied them in modern education. The findings of the study may reveal how the theory of sentiment developed a new meaning through the transition from traditional Confucianism to modern aesthetics, as well as under the influence of the western approaches to aesthetics.

*

* *

The spectrum of Chinese Confucianism gradually changed from the state of being traditional to that of being modern, due to the influences of the Ching

* Paper presented at the International Symposium "Expressions of Traditional Wisdom" (Brussels, 28 September 2007).

** Professor, Department of Chinese Language and Literature, National Pingtung University of Education, Taiwan (Republic of China).

Dynasty's academic studies. Especially the viewpoints of Tai-Chen (1723-1777) — who pointed out that human sentiments and desires were common to human nature — towards human sentiments and desires were greatly valued and appreciated by modern Chinese scholars. This idea was notably in opposition to that of Sung-Ming Neo-Confucianists, who claimed that rationality was good, while sentiments were evil.

Later, two modern scholars, *i.e.* Liang Chi-Chao (1873-1929) and Tsai Yuen-Pei (1868-1940), shared Tai-Chen's viewpoints by stressing the importance and values he promoted. After the enlightenment of Tai-Chen's viewpoints, Liang Chi-Chao and Tsai Yuen-Pei viewed sentiments as the foundation for aesthetic education. In addition, these two masters, under the influence of the western approaches towards aesthetics, responded to the needs of the times and public yearnings by developing a new way to appreciate aesthetic values. This called for the urgency to reassess the importance of aesthetic education in order that this idea might play a constructive role in the process of developing their beloved nation.

Liang Chi-Chao was a man with sentiments, which were noted as most profound and colourful. He often emphasized that sentiment was the sole motivation for people to live and work. If a man vows to do a great task, sentiments are just like a demanding emperor and hence rationality should yield to sentiments. A man should know and follow his sentiments to their utmost, and then he can perform great tasks. Here, it can clearly be seen why Liang Chi-Chao would claim: 'A good teacher should give judicious guidance to students according to their individual sentiments.' The most efficient instrument for sentiment education is art, which appears in the form of music, painting and literature, respectively.

Tsai Yuen-Pei divided man's spiritual functions into knowledge, will and sentiments. He emphasized the importance of sentiments in particular, indicating that a man can bring back his or her lost sentiments with the aid of music, painting and literature. Like Liang Chi-Chao, Tsai Yuen-Pei pointed out that "man can be fearless in any 'life or death' situation, ignore the fact of whether he or she is blessed, treat anything with enthusiasm, share enjoyments with others, sacrifice themselves for others, etc., if the instruction of aesthetic education is properly provided". Therefore, aesthetic education complements intellectual education, and ends with the completion of moral education.

Since Tsai Yuen-Pei valued human sentiments so much, he devoted himself to the promotion of aesthetic education, especially during the period of the Japanese invasion. He thought that the best way for people to love and help one another is through the efforts of extending sympathy and making it steadfast. Here, the aesthetic function 'empathy' is the key to uniting people's sentiments.

Liang Chi-Chao's ideas about sentiments derived from his life-time experiences and the influences he received from the trend of thoughts which emphasized the value of 'sentiments' towards the end of the Ching Dynasty. However, we need to note that Tsai Yuen-Pei's viewpoints towards aesthetics are not so

much linked to the western aesthetics as to the aesthetic thoughts of Immanuel Kant (1724-1804). Obviously, Tsai Yuen-Pei has adapted some of Kant's viewpoints towards aesthetics, and this can be seen in his own statements:

- According to Kant, human sentiments are based upon the nature of one's freedom... Anything, whether it is pleasant or not, is determined by the fact whether it is beautiful or not...
- To Kant, the definition of beauty is 1) transcendence: irrelevant to anything related to 'benefits'; 2) universality: human nature and things common to all people; 3) spontaneity: determined by free will; 4) inevitability: led by human nature without effort.

Tsai Yuen-Pei indicated that all men experience the emotions of love, hate, fear, happiness, anger, sadness, etc., in the 'phenomenal world.' Our emotions rise and fall like waves and tides in response to the phenomenon of life, death, fortune, misfortune, gain and loss. Art can prevent us from distracting thoughts, and thus help us to maintain pure aesthetic sensibilities. Art can break the prejudice against others, and reconcile the differences between gain and loss. When a man frees himself from the 'relative' emotions of this phenomenal world, and sublimates his emotions to form an aesthetic wholeness... Then he touches the essence of the world's entity.

It is, therefore, obligatory for an educator to lead us from the phenomenal world to the entity world with the introduction of aesthetic education. The aim of aesthetic education is to cultivate one's disposition and soul in order to 'lift one up' gradually with each passing day, and that is the reason why Tsai Yuen-Pei tried so hard to promote aesthetic education. In Tsai Yuen-Pei's opinions, the term 'aesthetic education' should not only be provided in a form of art education for schools, but also in an aesthetic education for our families and society as a whole.

By emphasizing the importance of sentiments, and initiating a plan to make aesthetic education a necessary tool in building up the nation, Liang Chi-Chao and Tsai Yuen-Pei have made a very important contribution to the foundation of modern Chinese aesthetic education. However, we need to note that there was an inevitable contradiction between Tsai Yuen-Pei's theory and that of Kant. For example, In Kant's theory, sentiment is the essence of 'aesthetic sense', and the non-purposeful property of aesthetic sentiment makes a man disinterested in gain or loss, and thus even eliminates the obsession of self-interest. Yet, to Liang Chi-Chao and Tsai Yuen-Pei it was inevitable that aesthetic education would include the property of being purposeful.

Again, according to Tsai Yuen-Pei's idea, the term 'aesthetic sentiment' is derived from the interaction between a human's inner sentiments and external environment, while in Kant's opinion, aesthetic sentiments are not inner emotions and are not experiential, needless to say, they are not concerned with the materialistic objects in question. When people throw off all pleasant physical sensations derived from external stimulations, they achieve the aesthetic sentiments which appear in the form of free mind.

In summary, we might claim that the theories of sentiments proposed by Liang Chi-Chao and Tsai Yuen-Pei were experiential, whereas Kant stressed that the major property of aesthetic sentiments is transcendental and pure, and that constituted the basic differences among Liang Chi-Chao, Tsai Yuen-Pei and Kant. Yet, in spite of the differences that existed, we have to admit that it was Tsai Yuen-Pei who laid the foundation for modern Chinese aesthetic education by adapting some of Kant's viewpoints, and it was also Tsai's theory about human sentiment that injected a new stream of life into traditional Confucianism, which always valued rationality and depreciated emotions. Finally, we would conclude that owing to Liang Chi-Chao's and Tsai Yuen-Pei's efforts in promoting the paramount value of human sentiments, this stream of modern Chinese thinking towards aesthetic education can be developed into a new promising field.



Liang Chi-Chao (1873-1929)



Tsai Yuen-Pei (1868-1940)

The Way of Phronesis: Revisiting Traditional Wisdom in Architecture*

by

Leonidas KOUTSOUMPOS** & Yue ZHUANG***

Introduction

This paper is an attempt to re-establish the importance of traditional wisdom by suggesting the conflation of the Chinese ideogram of 道 (*tao* = way), with the Greek term of φρόνησις (*phronēsis* = practical wisdom) as it can be expressed in the ‘ambiguous’ [1]**** discipline of architecture. Although the connection of the two terms, that relates the ethical treatises of Confucius and Aristotle, is not new in philosophy [2], this research has never reached the western discourse of architecture that focuses only on *phronēsis*. Here, we are going to emphasize the validity of the traditional character of the *way*, not only as a still valid discourse for architectural theory, but mainly as a critical concept that can be used to redefine architectural practice.

Two cases studies are utilized in order to analyse the concepts of *tao* and *phronēsis*: one is an example of the history of Chinese gardens (The Garden of Solitary Enjoyment) as a manifestation of *tao*, and the other is a contemporary example of the architectural design studio from the architecture school of Edinburgh, as a manifestation of *phronēsis*. The common thread in these so very different examples is the emphasis on the ‘process of doing’ the ordinary activities of gardening and discussing about architecture, as constitutive for the understanding of architecture and the world. In this way, both the ancient gardener/owner and the contemporary student/teacher participate in a revelatory creation of the way that can lead to a “phronetic” understanding of ethics in the world.

* Paper presented at the International Symposium “Expressions of Traditional Wisdom” (Brussels, 28 September 2007).

** Design Tutor and Postgraduate Researcher Architecture, University of Edinburgh, 20 Chambers Street, EH1 1JZ, Edinburgh (Scotland).

*** Lecturer, School of Architecture, Tianjin University, 92 Weijin Road, Tianjin 300072 (China).

**** Numbers in brackets [] refer to the notes, pp. 351-353.

Tao in a Chinese Garden

The concept of *Tao* has been a prevailing one in Chinese philosophy, but at the same time it has been used in a great variety of ways. Here we shall confine our discussion on *Tao* to the understanding of Confucius. Therefore, on the one hand, we reject the more dominant view in the West which perceives *tao* as 'one infallible method of rule' [3], or 'single, definite ord' [4], quite contrary to Confucius' thinking that precludes the existence of any transcendent being or principle. On the other hand, we also distinguish *tao* from that of the Taoists who, similarly to Confucians, consider it as a field of existence, as an ongoing process, but are more focused on a metaphysical level and seldom attend to the human world. We shall argue that for Confucius, *tao* is a verb rather than a static stance; its several derived meanings include: to lead through, to explain, to tell [5]. As a way of 'road making' or 'world making', *tao* is also immediately associated with, if not defined in terms of, *jen* as 'person making', and the ultimate goal of human life or *yao* (enjoyment, happiness) [6], while *phronēsis*, as 'practical wisdom', plays a role in unifying all the virtues and leads through to *eudaimonia* (happiness) [7]. It is on this ground that we found it promising to build the link between *tao* and *phronēsis* in the discourse of architecture.

In accord with Confucius' concern on the human world, his thoughts on architecture are also from an ethical perspective, focusing on the agent of dwelling instead of objects of buildings. It is highly emphasized that dwelling — almost an equivalent of the term 'architecture' in Chinese 居 greatly influences the cultivation of human virtues. For example, Confucius once said: "It is virtuous manners which constitute the excellence of a neighbourhood. If a man in selecting a residence does not fix on one where such prevail, how can he be wise?" (*Analects IV*) His eminent follower Mencius spells out more clearly the ontological significance of dwelling: "Ones' dwelling alters the *chi* (vital energy), just as the nurture affects the body. Great is the influence of dwelling!" (*Work of Mencius, Book VII*). Such an emphasis can be understood better against a twofold background: the Confucianism recognition that the existentiality of man is perceived as a matter of self-cultivation [8], which depends much on her/his engagement to everyday life, and the fact that dwelling remains an agency for man's everyday experience.

Further, we acknowledge that, for Confucius, the completion of a human being (or an exemplary person) is based on a sound co-operation between two spheres of human life, the *li* (ritual action, orders) and *yao* (music, art, enjoyment) [9], roughly the 'on duty' and 'off duty', or the public and the private, the outer and the inner, with an emphasis on the latter [10]. In his view, the constitution of flourishing life cannot be secured only from the outer force of the public, but more from the inner of each individual, as it is clearer within the control of the individual who has it than the 'outer' values: 'let the character be. . . established by the ritual order; and perfected by music or art' (*Analects VIII*). And apparent-

ly it was in his off-duty life that Confucius attained enjoyment: ‘when the master was dwelling without occupied with business, his manner was easy, and he looked pleased.’ (*Analects* VII) In the sphere of architecture, such a division is embodied in a dichotomy of housing and gardens. As the Chinese word of housing, *zhai di*, shows itself that *di* means order, so housing embodies the outer force of the public life; while the garden, an indispensable part of a typical Chinese intellectual dwelling complex, is associated with the off-duty life. This is the reason why most of the Confucians’ discourse on *Tao* within architecture is on gardens, or garden dwelling. For example, ‘In the *tao* of the exemplary person, it is the dwelling of the mind that has to be placed first and then that of the body... for the building of one’s housing, in my thinking, it is the garden that has to be established before the house, as house only meets the needs of body, but cannot entertain that of ears and eyes.’ [11]

For a case study, we shall view a well-known garden of the 11th century, the Garden of Solitary Enjoyment (*Du Le Yuan*), to exemplify that ‘garden’, for Chinese intellectuals, is a practice of dwelling, and *tao* is to be embodied through it. This garden belongs to Sima Guang (1019-1086), whose essay “Record of the Garden of Solitary Enjoyment” gives us a detailed account:

He usually spent a lot of time reading in the hall. He took the sages as his teachers and the many virtuous men (of antiquity) as his friends, and he got an insight into the origins of benevolence and righteousness, and investigated the ins and outs of the Rites and of Arts [...] The principles of things gathered before his eyes. If his resolve was weary and his body exhausted, he took a rod and caught fish, he held up his sleeves and picked herbs, made a breach in the canal and watered the flowers, took up an axe and cut down bamboos, washed his hands in the water to cool himself down, and, near the highest spot, let his eyes wander to and fro wherever he pleased. Occasionally, when a bright moon came round and a clear wind arrived, he walked without any restrictions. His eyes, his lungs, his feelings were all his very own [...] What enjoyment could replace this? Because of this he called the garden the Park of Solitary Enjoyment. [12]

Here, it is worthy of attention that this record is not an aesthetic account of the beauty of the garden — the garden is not represented as an object — but is a description of gardening activities of everyday life [13]. And it is from these everyday activities that the owner lived his off-duty life towards ‘enjoyment’ or *yao*, an equivalent of *tao* in individuals. To use GADAMER’S (2004) language, we do not see in the garden a distinction of subject and object, that is, a gardener and a garden, but a human being giving himself totally to everyday activities, and absorbed in these activities. It is in these practices that he forms an attitude towards the nature of creatures and things and finds his ability to assist the transforming and nourishing power of Heaven and Earth. Through these practices the truth of his worlds, in which is revealed the very relationship of his creativities and the deep source of the world, also comes forth, which leads through to the ultimate enjoyment [14] — ‘He walked without any restrictions. His eyes, his lungs, his feelings were all his very own... What enjoyment could replace this?’

What is also worth noting of this garden is the phenomenon of naming sceneries after a gardening activity engaged by a famous antiquity figure, such as 'pavilion of watering flower', alluding to Bai juyi, and 'Hall of reading' alluding to Dong Zhongshu. It indicates that Sima's garden dwelling is actually the practicing of a way of life, or *tao*, that extends to him from the past. And in such practicing, this inherited way is certainly nothing as it was, but has to be adapted and developed to the present context, in unique and qualitatively different ways. It is from such a way of living that gardeners-scholars like Sima get engaged in the ongoing tradition and require their own continuity. It is most illuminating in the revelation of *tao* as *Way* that *tao* is not to be received as a legacy; instead, the realization of *tao* is to experience, to interpret, and to influence the world in such a way as to reinforce a way of life established by one's cultural precursors [15]. This way of living in the world is the very wisdom practised in the gardening world of Chinese Confucians, and leads through to the ultimate enjoyment.

***Phronēsis* and the Design Studio**

Contemporary western-focused architecture of East and West seems to be very distant and indifferent from the above analysis of Chinese gardens. The concepts of *tao* and virtue are estranged from design processes and the interpretation of architecture. Nevertheless, the design studio in architectural education not only allows a fruitful cross-examination between *phronēsis* and *tao*, but also makes sense to study because of its impact in the production of landscape and the built environment.

The design studio is the core of architectural education where the students of architecture come to design projects that imitate situations they would deal with as professionals. The design studio is the place where design practice conciliates all other theoretical and practical skills and knowledge acquired during architectural education. It is where design practice meets philosophical query not only at the same place but into the same *praxis* [16]. SNODGRASS & COYNE (1992) argued that a hermeneutic view of the educational process in the design studio that establishes *phronēsis* as an important mechanism through constantly renewed metaphors interprets each specific design situation [17]. Moreover, Pérez-Gómez emphasizes the fact that practical wisdom in the design studio is based on the oral transmission rather than on textual information [18]. In this way *phronēsis* is the fundamental virtue that can lead to the fulfilment of *praxis*, the core of human life [19].

In ancient Greek philosophy, Aristotle was the first to define *phronēsis* as 'practical wisdom', that is "a state conjoined with reason, true, having human good for its objects, and apt to do" [20]. In the division that Aristotle makes between moral and intellectual virtues, *phronēsis* while being in the intellectual part, keeps a very special place as a term that brings the two categories together.

Standing in the middle of the intellectual virtues (fig. 1), between scientific knowledge (*Epestēmē*) and art (*Tecnē*), on the one side, and intuition (*Nous*) and theoretical wisdom (*Sofia*), on the other, practical wisdom keeps the balance between the extremely realistic and practical aspect of *epestēmē* and *technē* and the philosophical and theoretical aspect of *nous* and *sofia* of the human intellectual knowledge. At the same time *phronēsis* bridges the gap between the moral and the intellectual part of soul, because it works as instrument to achieve happiness (*eudaimonia*), the ultimate human goal for Aristotle.

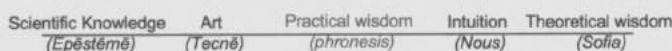


Fig. 1. — Intellectual virtues.

GALLAGHER (1992), referring to education, argues that *phronēsis* engages with situations in a way that the person cannot stand out of the situation in order to see it in an objective way. Knowledge of a situation is always imperfect knowledge gained *within* the situation, and the model for that knowledge is *phronēsis* [21]. GADAMER (2004), furthermore, clarifies the difference between technical and moral knowledge and claims that *phronēsis* involves a kind of self-knowledge that is not present in technological knowledge [22]. The hermeneutical situation appears to be a non-objective situation that assimilates to the situations of ethics one encounters in the everyday life. Gadamer also argues that “For moral knowledge, as Aristotle describes it, is clearly not objective knowledge *i.e.*, the knowledge is not standing over against a situation that he merely observes; he is directly affected by what he knows. It is something that he has to do” [23]. In this way Gadamer’s view of the way of interpretation utilizes the Aristotelian concept of *phronēsis* “as the operative ‘intellectual virtue’ in understanding” [24].

In order to illustrate the above thoughts we will visit a conversation [25] between a tutor (John) and a first-year student (Mark) during a tutorial about a small domestic project in an urban environment. The project is still in an early stage and Mark has just proposed a basic diagram of space adjacencies and now tries to justify the curvy shape of the rooms.

Mark: I didn’t want boxy rooms... that’s another thing which I didn’t talk about. I don’t really want to extrude these lines as I’m sure I did, as you said before and create cells (...)

John: Why? What’s wrong with rooms looking like cells?

M: Um, nothing but it’s just a bit too everyday; sort of just the way we have to do things and I want to change it.

J: Why do we do it like that?

M: Because it’s easier, it’s just a box.

J: Why do you think it’s easier?

M: Em, in like houses they’ll look for the cheap way to do things; shoot them up as quickly as possible.

- J: So you're trying to make an expensive house?
M: I'm not saying that the architect's in the they're gonna want to portray some form of good quality.
J: And why good quality cannot be cheap?
M: I just thought, I heard one or two people saying that extruding lines up from our diagrams.
J: Well, I would agree but what you are proposing is again a diagram and you will just extrude the lines from this new diagram, so I think that you have to try to understand somehow deeper why we usually make the rooms like boxes and not just refute it – if you would like to challenge this notion then do it in the whole house and try and approach the things in the same way and not just making this strange thing (pointing in a plan at a corner of a project)... do you see what I mean?

John and Mark were within the educational situation, without a privileged outside fixed point. Although John (through his dual role as a teacher and a practitioner) had an experience from the professional world, this experience did not serve as a predestined response, but rather as an awareness of the wideness of the overall discussion, opening the topic instead of closing it. Both Mark's and John's knowledge about the situation was imperfect before the conversation, as well as after, since no final answer was given to the original questions. Nevertheless they both engaged in an educational process that led them to a better grasping of the design situation. Nevertheless, this knowledge was not predetermined like a lecture that delivered some amount of knowledge, but it was rather a practical knowledge that had to do with the specific situation and it was constructed on the way. Like Sima Guang and his Garden of Solitary Enjoyment, where there was no distinction between the garden and the gardener, the object and subject of the education cannot be distinguished. For this, it is characteristic that John did not answer his own original question and asked from the student to contemplate further the reasons that lead to the specific way of design and thus leaving the issue open for further contemplation. In this sense, participation *in* the dialogue appears to play a fundamental role for the possibility of education of ethics. And it is also in the dialogue that the very nature of architecture emerged, not as an artwork whose only commitment is to be self-expressive, but rather as belonging to the wider economy of 'unselfing', and the same for architects who are meant to lead a 'unselfed life' [26]. By practising the dialogue in the design studio, Mark and John are 'making their way' towards a more *phronetic* attitude of architecture, since the ultimate aim of architectural education is the cultivation of ethics, as the way of *phronēsis*. "*Phronēsis*... is inseparable from ethics and from our involvements in a society. *Phronēsis* has an inherently ethical aspect" [27].

Conclusions

The two case studies eloquently show that there is an apparent connection between the construction of the *tao* in the Chinese Garden and in the cultivation

of *phronēsis* in the design studio, that is, a certain attitude of engagement in the world [28].

This attitude though, should not be taken for granted, since it is not always present. Contemporary China, for example, the largest construction site in the world, has been dominated to a large extent by techno-scientific knowledge that is erroneously capitalistic in origin; architecture is seen as a mere object, that has no connection to the human being apart from its commodity. Within such a complicated situation full of conflicts, there is a need for an ethics of architecture, in order to secure an ethical urban and architectural environment. But in fact, architecture in China seeks a western Cartesian enlightenment of object-subject divisions, having forgotten the meaning of enlightenment in its traditional philosophy. There is neither lack of design studios in its schools of architecture, nor of historical references in order to cultivate a phronetic way of making architecture. On the contrary, what is lacking, most of the time, is this particular attitude towards the world that identifies a unifying of personal virtues with the good life.

For this, in Chinese architectural education (as well as in every other country with similar characteristics, no matter if it is in the East or in the West), there is an urgent need to recall the long missed-out traditional wisdom of *tao*. This can happen not by merely copying the form of the western studios, but by grasping the essential spirit of *phronēsis*, which transcends conventional West/East divisions. This attitude seems to be the only way of educating architects who are competent in dealing with contemporary situations in a sense that they do not only have a command of building skills or techniques of form making. Such an architect must be cultivated in *phronēsis*, that leads in a thorough understanding of her or his commitment in the role of 'world making', which is not only to be the *tao* of architecture, but also the *tao* of our present world.

NOTES

- [1] There is a long controversy in architectural discussions about its position amongst the dipole art/science. Characteristic is also the fact that schools of architecture are sometimes grouped with departments of engineering (Athens-Greece, Tianjin-China) and sometimes with departments of arts or social sciences (Edinburgh-Scotland).
- [2] For example: May Sim, *Remastering Morals with Aristotle and Confucius* (Cambridge University Press, Cambridge New York, 2007). Jiyuan Yu, *The Ethics of Confucius and Aristotle: Mirrors of Virtue* (Routledge New York, 2007). Francis Y. P. Chin, *Confucius and Aristotle: A Comparative Study on the Confucian and Aristotelian Political Ideals, [Chung-Hua Ts*Ung Shu]* (Committee for Compilation and Examination of the Series of Chinese Classics, National Institute for Compilation and Translation, Taipei, Taiwan, Republic of China, 1981). Also Hamburger (1959).
- [3] Arthur Waley, *The Analects of Confucius* (Random House, New York 1938, p. 30).
- [4] Herbert Fingarette, "Following the 'One Thread' of the *Analects*", in *Journal of the American Academy of Religion* (Thematic Issue), 47 (1979): 373-406.

- [5] See David Hall & Roger Ames, *Thinking through Confucius* (State University of New York Press, Albany, New York, 1987, pp. 226-227). Also Peter Boodberg, "Philological Notes on Chapter One of the Lao Tzu", in *Harvard Journal of Asiatic Studies*, 20 (1957): 598-618.
- [6] As Confucius said: "The gentleman-scholar must be strong and determined, for his task is a heavy one and his way (tao) is long. Where he takes as his task becoming authoritatively human, is it not a heavy one? And where his way ends only with his death, is it not indeed long?!" (*Analects VIII*), see HALL & AMES (1987), p. 229. The connection of *tao* and *yao* as enjoyment, happiness will be discussed further.
- [7] Julia Annas, *The Morality of Happiness* (Oxford University Press, Oxford, 1993, p. 73). A discussion on the similarity between Confucius' *junzi*, the exemplary person who fulfils *tao*, and Aristotle's *phronimos*, the person who has *prhonesis* can be found in SIM (2007), pp. 23-25. He also suggests that, for both, talking about the good life is talking about the kind of person.
- [8] Chung-ying Cheng, "Confucius, Heidegger, and the Philosophy of the I Ching: A Comparative Inquiry into the Truth of Human Being", in *Philosophy East and West*, 37 (1987): 51-70.
- [9] It is quite commonplace in China that the understanding of *yao*, not limited to music, poetry and dance, but includes more broadly fine arts and martial arts, or anything that offers enjoyment. See Guo Moruo (1943); Zehou Li, *Li Zehou Shi Nian Ji* (Anhui Press, Hefei, 1994); Qiheng Wang, "'Yao' and Chinese Traditional Gardens," *Gui hua Shi* 1, 1997, pp. 38-41. While the western scholarship seems to be more narrowed down at music, with the exception of HALL & AMES 1987, pp. 274-283.
- [10] Here again we found similarities between Confucius and Aristotle, both of whom take the life as a whole, contrary to post-classical Ethics in the West, which merely focused on the former; see Joel J. Kupperman, *Learning from Asian Philosophy* (Oxford University Press, New York / Oxford, 1999, pp. 153-155).
- [11] Wang Shizhen (1526-1590), *Tai Cang Zhu Yuan Xiao Ji*. See Cheng meng lei *et al.*, *Gu Jin Tu Shu Ji Cheng* (Zhong hua shu ju, Beijing, 1986).
- [12] Sima Guang, *Record of the Garden of Solitary Enjoyment* (Sima Wen gong wen ji, Taipei, 1967), translated for Maggie Keswick by Paul Clifford. Maggie Keswick, Alison Hardie and Charles Jencks, *The Chinese Garden: History, Art and Architecture* (Rev. ed.) (Frances Lincoln, London, 2003, p. 97).
- [13] This point seems to have been largely neglected by the modern scholarship on Chinese gardens.
- [14] This view is borrowed from a conflation of the Chinese classics and recent western scholarship on philosophy. 'It is only he who is possessed of the most completed sincerity that can exist under heaven, who can give its full development to his nature. Able to give their development to the natures of creatures and things, he can assist the transforming and nourishing powers of Heaven and Earth. Able to assist the transforming and nourishing powers of Heaven and Earth, he may with Heaven and Earth form a ternion.' (The Doctrine of the Mean. Chap XXII) and 'The garden, then, is an epiphany — a symbol, in the Romantic sense — of the relation between the source of the world and ourselves.' (David E. Cooper, *A Philosophy of Gardens* (Oxford University Press Inc, New York, 2006, p. 150).
- [15] HALL & AMES (1986), p. 227.

- [16] L. Koutsoumpos, "Ethics and the Architectural Design Studio: 1+3 Ahistorical Metaphors", in *EAR — Edinburgh Architecture Research*, 30 (2007): 69.
- [17] Adrian Snodgrass and Richard Coyne, "Models, Metaphors and the Hermeneutics of Designing", in *Design Issues*, 9 (1): 73 (1992).
- [18] Pérez-Gómez, "Ethics and Poetics in Architectural Education –I", p. 27 [my italics].
- [19] "Life is praxis" Oded Balaban, "Praxis and Poesis in Aristotle's Practical Philosophy", in *The Journal of Value Inquiry*, 24 (1990): 196 [emphasis added]
- [20] Nicomachean Ethics 1140b 23.
- [21] Shaun Gallagher, "Hermeneutics and Education", in D. J. Schmidt (Ed.), *Suny Series in Contemporary Continental Philosophy* (State University of New York, New York, Alban, 1992, p. 152).
- [22] *Ibid.*, p. 153.
- [23] Hans Georg Gadamer, *Truth and Method*, trans. Translation revised by J. Weinsheimer & D. G. Marshall, second revised edition (Continuum, London / New York, 2004, p. 314).
- [24] Richard Coyne, *Design Information Technology in the Postmodern Age: From Method to Metaphor* (Cambridge, Massachusetts; London, England, *The MIT Press*, 1997 [1995], p. 14).
- [25] This case study comes from the transcripts of a real dialogue which took place in the school of architecture at the University of Edinburgh. Very small omissions have been made due to the restrictions of space indicated with the symbol (...). The names of the participants have been changed in order to secure their privacy.
- [26] 'Unselfing', a term of Iris Murdoch, who sees it as a process of detachment from absorption in what peculiarly concerns one's own interests and ambitions; David Cooper has used it to label the virtues induced by garden practices. (See Iris Murdoch and Peter Conradi, *Existentialists and Mystics: Writings on Philosophy and Literature* (Chatto & Windus, London, 1997, p. 385). David Cooper (2006), pp. 95-96.
- [27] Richard Coyne & Adrian Snodgrass, *Interpretation in Architecture: Design as a Way of Thinking* (Routledge Taylor and Francis Group London, New York, 2006, p. 112). [italics in the original]
- [28] We should also note an asymmetry between the two case studies. The fact that it is rather possible to justify that Sima Guang lived a virtuous life, while we cannot justify Mark's future moral stance. The historical perspective in the one case allows an overview that is not possible in the level of the contemporary design studio.

REFERENCES

- ANNAS, J. 1993. *The Morality of Happiness*. — Oxford, Oxford University Press.
- BALABAN, O. 1990. *Praxis and Poesis in Aristotle's Practical Philosophy*. — *The Journal of Value Inquiry*, 24: 185-98.
- BOODBERG, P. 1957. *Philosophical Notes on Chapter One of the Lao Tzu*. — *Havard Journal of Asiatic Studies*, 20: 598-618.
- CHENG, C.-Y. 1987. *Confucius, Heidegger, and the Philosophy of the I Ching: A Comparative Inquiry into the Truth of Human Being*. — *Philosophy East and West*, 37(1): 51-70.

- CHENG MENG LEI *et al.* 1986. *Gu Jin Tu Shu Ji Cheng*. — Beijing, Zhong hua shu ju.
- CHIN, F. Y. P. 1981. *Confucius and Aristotle: A Comparative Study on the Confucian and Aristotelian Political Ideals* [Chung-Hua Ts*Ung Shu]. Taipei (Taiwan), Republic of China, Committee for Compilation and Examination of the Series of Chinese Classics, National Institute for Compilation and Translation.
- COOPER, D. E. 2006. *A Philosophy of Gardens*. — New York, Oxford University Press Inc.
- COYNE, R. 1997 [1995]. *Design Information Technology in the Postmodern Age: From Method to Metaphor*. — Cambridge (Massachusetts) / London (England), *The MIT Press*.
- COYNE, R. & SNODGRASS, A. 2006. *Interpretation in Architecture: Design as a Way of Thinking*. — London / New York, Routledge Taylor and Francis Group.
- FINGARETTE, H. 1979. Following the 'One Thread' of the Analects. — *Journal of the American Academy of Religion* (Thematic Issue), **47** (3S): 373-406.
- GADAMER, H. G. 2004. *Truth and Method* (Translation revised by J. Weinsheimer & D. G. Marshall, sec. rev. ed.). — London / New York, Continuum.
- GALLAGHER, S. 1992. Hermeneutics and Education. — In: SCHMIDT, D. J. (Ed.), *Suny Series in Contemporary Continental Philosophy*. New York / Albany, State University of New York.
- HALL, D. & AMES, R. 1987. *Thinking through Confucius*. — New York / Albany, State University of New York Press.
- KESWICK, M., HARDIE, A. & JENCKS, C. 2003. *The Chinese Garden: History, Art and Architecture* (rev. ed.). — London, Frances Lincoln.
- KOUTSOUMPOS, L. 2007. Ethics and the Architectural Design Studio: 1+3 Ahistorical Metaphors. — *EAR (Edinburgh Architecture Research)*, **30**: 63-71.
- KUPPERMAN, J. J. 1999. *Learning from Asian Philosophy*. — New York / Oxford, Oxford University Press.
- LI, Z. 1994. *Li Zehou Shi Nian Ji*. — Hefei, Anhui Press.
- MURDOCH, I. & CONRADI, P. 1997. *Existentialists and Mystics: Writings on Philosophy and Literature*. — London, Chatto & Windus.
- SIM, M. 2007. *Remastering Morals with Aristotle and Confucius*. — Cambridge / New York, Cambridge University Press.
- SNODGRASS, A. & COYNE, R. 1992. Models, Metaphors and the Hermeneutics of Designing. — *Design Issues*, **9**(1): 56-74.
- WALEY, A. 1938. *The Analects of Confucius*. — New York, Random House.
- WANG, Q. 1997. 'Yao' and Chinese Traditional Gardens. — *Gui hua Shi*, **1**: 38-41.
- YU, J. 2007. *The Ethics of Confucius and Aristotle: Mirrors of Virtue*. — New York, Routledge.

Traditional Wisdom in Sub-Saharan Africa: An African Origin of Philosophy*

by

Niels WEIDTMANN**

1. Introduction

In Africa south of the Sahara, traditional wisdom has been rediscovered in its significance for philosophy over the last few decades. For a long time, it was considered to be worthless and out of date because it did not teach a coherent philosophical system and did not suffice for modern scientific criteria. Since the passing on of traditions in Africa was almost exclusively done orally until the early 20th century, the 'traditional wisdom' got lost to a large extent as a result of this disinterest. Therefore, after the end of the colonial rule in the 1960s, philosophy in Africa for the most part meant the occupation with the western tradition of philosophy. Only in the last thirty years or so have African philosophers begun to devote themselves even more to the oral traditions and have they been trying to articulate these as an 'African voice' in the global discourse of philosophy.

This is an encouraging development. But as long as 'traditional wisdom' is understood as a source for additional contributions to *the one* 'global philosophy' only, it is not being done any justice. In the following, I attempt to show that a more detailed treatment of the 'traditional wisdom' of Africa can reveal that, in fact, the supposed 'global philosophy' is an expression of an individual tradition, namely of the western one, and makes this into an absolute. Of course, that does not mean that a supposed African and the western philosophies were irreconcilable opponents. Rather, just like the African and western cultures have developed themselves as different, fully valid possibilities of being human, the respective traditions of philosophy also represent different fully valid ways to philosophize. Therefore, the exchange between the philosophical traditions does not just lead to a mere broadening of philosophy nor does it evoke a clash of different arguments, rather it leads to a new understanding of philosophy as a whole. 'Global philosophy', as the thesis goes, does not yet exist; it still must be found and invented in an intercultural exchange.

* Paper presented at the International Symposium "Expressions of Traditional Wisdom" (Brussels, 28 September 2007).

** Forum Scientiarum, Universität Tübingen (Germany).

2. The Neglect of African Traditional Wisdom in Philosophy

Whenever the topics of discussion are philosophy and Africa, a statement from Hegel is always a point of reference: Africa south of the Sahara, Hegel says, is faceless and thus, stands, so to speak, outside of world history but is “still caught up in the natural spirit” [1]. For Hegel, therefore, it was clear that there could not be something like an African philosophy. Since Hegel in the same context also has made some even more idiotic remarks about the character of the people in Africa, his statements are ideal to form contrasts with and subsequently to incorporate Africa into the global discourse of philosophy without much more consideration. But, what does the African contribution to this discourse actually look like? The variety of answers gives a first hint at how volatile the question is.

The most frequent and probably the most plausible answer at first glance is that the African contribution distinguishes itself from others merely because it comes from Africa and it is being contributed by the Africans themselves. Thus, there is nothing specifically African about the contribution itself. There is no kind of culturally-caused, different traditions of philosophy whatsoever. Philosophy is a science and, thus, it is just like every other science completely independent of culture and therefore it is universal. However, this answer implies that philosophy in Africa exists only since the Africans are taking part in the global discourse of philosophy — with a few exceptions, that means since the attainment of independence in the 1960s. But, what was before?

Another prominent answer to the question of how Africa contributes to philosophy is the ‘ethnophilosophy’, so called by Paulin Hountondji taking up the word from Kwame Nkrumah [2]. In rough outlines, the ethnophilosophy attempts to come to conclusions about the underlying metaphysical ideas through an analysis of language and the observation of cultural practices. This is how entire African philosophical systems that had of course never been articulated themselves from the corresponding cultures or ethnicities, have been described. The decisive criticism of the ethnophilosophy is that it towers above the cultures it has examined and claims to have a better understanding of thought in these cultures than members of the cultures have themselves [3]. In fact, ethnophilosophers subject the expressions of a culture, that means its language, customs and social ways of life, religious acts, cultural matters and so forth, to their own horizon of understanding, and against this backdrop they interpret these expressions as a manifestation of underlying metaphysical ideas. The philosophical system that comes out of it is then, of course, an invention of ethnophilosophy.

The third answer is much more sophisticated. Over the last thirty years or so, attempts by established, western-educated philosophers from Africa to record African traditions and to make them productive in a critical analysis for the glob-

* Numbers in brackets [] refer to the notes and references, p. 364.

al discourse of philosophy have been increasing. A prominent representative of this 'new generation' of African philosophers is Kwasi Wiredu from Ghana, who now is teaching at the University of South Florida in Tampa, USA. Wiredu sees cultural worlds as various perspectives of the global world. The African traditions are, therefore, linked to the African perspective and they are valid within this perspective. At the same time, they also constitute one of many sources, from which all human beings can obtain knowledge. However, according to Wiredu, when the African traditions are taken as a source of global knowledge and are no longer seen from the African perspective, they must be put under a critical analysis. According to Wiredu, who in this point follows John Dewey, this is necessary because the meaning of 'truth' and, accordingly, the validity of any knowledge always correspond to a particular perspective and thus, 'truth' on the global level has a different meaning than it has on a cultural level [4]. Thus, only such knowledge is valid on a global level beyond the cultural perspective, which has undergone a critical examination under the broader global perspective. Therefore, the African traditional wisdom must be checked as to what it can contribute to the answering of fundamental philosophical questions that are asked on the global level [5].

3. The Myth of Universality

Wiredu assumes that the achievements of the various philosophical traditions are only then interculturally relevant, if they logically answer questions that are asked on the global level. Therefore, considering the cultural traditions he has already assumed a standpoint at this global level. Similar to the way he sees cultures as perspectives of *the one world*, he interprets the various philosophical traditions as approaches to the *bigger truth* of 'global philosophy' [6]. How can he do that? Well, he only can assume *the one world* and *the bigger truth* beyond the various cultural traditions because he sees the cultural 'world views' — '*Weltansichten*' [7] — as well as the respective traditions of philosophy simply as contents of given universal forms. Historically, different cultures each may have taught their particular tradition of thinking, but the formal structure of thought is universal, which means it is the same in every culture.

The distinction between form and content of thought is owed to a certain conception of reason, namely the western one. Aristotle, and before him Plato in a certain way, establish their thinking from this distinction. From there on, it glides through the European history of philosophy like a piece of red thread, until it finally finds a clarification in Kant's Theoretic Philosophy. Only due to the fact that Kant described an area of free reason beyond all empirical concretion, does it make any sense to claim the universality of reason beyond its different cultural and historical manifestations at all. Wiredu's argument, however, is somewhat different. For him the common basis of all humans simply is their biology. Thus,

he argues for an anthropological foundation which is universal; upon this basis, contingent culturally and historically different forms of being human have developed. These contingent forms can be understood only out of the respective cultural and historical perspectives. Due to the shared anthropological basis, however, mankind has a common measure to judge whether a given rational is universally valid or culturally contingent. While Wiredu argues for an anthropological basis rather than a transcendental one, as Kant does, he still accepts the dualism of content and form / of culture and nature / of contingency and universality without any further consideration. This dualism, *i.e.* the search for unity in the ever changing world, has driven western philosophy from its beginning on; with the invention of modern sciences it has become most powerful.

Because Wiredu assumes this rationale of western modernity to be valid also for the African tradition, he must then demand the African traditional wisdom to be put under a critical examination to clarify what part of it is suitable for contribution to the global discourse of philosophy. However, after this examination there is not much left of it, and thus Wiredu states: "Nevertheless, it is a fact that Africa lags behind the West in the cultivation of rational inquiry" [8]. Henry Odera Oruka, from Kenya, in order to name at least one more prominent representative of African philosophy, in the end comes to a similar conclusion. This although Oruka's name like no other stands for the attempt to prove the existence of philosophical thought in African history. He interviewed traditional sages and argued that the teachings of many of these sages showed a genuine African philosophy. Of course, the criteria, which he pulls up to classify the sages as 'philosophical sages', show how much even Oruka presupposes a western understanding of rationality and philosophy. Thus, he only allows such sages to be considered 'philosophical' who are able to rationally argue for their teachings [9]. Above all, so-called 'old wives tales', whose authors can no longer be identified, become neglected. Whether that will do justice to the reality of historical Africa — a reality which was coined through oral tradition and, inevitably, through a frequently ambiguous authorship — is at the very least debatable.

Asking for the contributions of different cultural traditions to *the one* 'global philosophy', one mistakes a single tradition of philosophy, namely the western one, as the only one possible. This, I suppose, is due to a misunderstanding of the meaning of universality. Universality itself is not universal in a strong sense. In fact, universality becomes a desideratum only where there is contingency and relativity. While western philosophy certainly is right to claim universal validity, this only means that it is valid wherever the dualist 'worldview' — as it is exemplified by the antagonism of universality and contingency which underlies all western traditions — is shared. In an African perspective this dualist 'worldview' does not necessarily seem to make sense [10].

4. The Orality of African Traditional Wisdom

When one is researching the traditional wisdom in Africa, one quickly notices the difficulties ahead: tradition in Africa south of the Sahara took place until the early twentieth century almost exclusively orally. And even after the adoption of the French and English script and the transcription of African languages, the orally transmitted, traditional wisdom was hardly put down into writing. Therefore, what remains for us is merely a fraction of the traditional wisdom. However, on closer inspection, the orality of the African tradition does not only present itself as an obstacle; it rather emerges as a possible key to a better understanding of the traditional wisdom. The orality points out the other basic conditions of traditional African cultures, in whose context the traditional wisdom belonged and against which background it actually has to be interpreted. Here, I point out only few aspects of orality:

- Oral tradition means that knowledge is passed down by word of mouth. The recipient of this knowledge can then pass on to the third person what he remembers from the first. Therefore, oral traditions cannot be very extensive; they require a strict selection of the knowledge to be transmitted. Usually, knowledge is preferentially passed on if it is important or useful for the present living situation of the community. For instance, valid beliefs and convictions or taboos are being passed on in this way. In contrast, beliefs not shared for a long time or non-binding taboos that are only of historical importance are not being passed on. The requirement of memorability of oral traditions also is one reason among others for the fact that the knowledge frequently is passed down in the form of proverbs, fables and songs.
- Anything being passed on naturally is transmitted as a statement of the previous generation. Even older traditions reach the present generation through the mouth of their fathers only. This is also a reason for the ancestors possessing such great significance in the traditional African cultures. The ancestors belong to the community of the living because their word in form of oral traditions is in fact of great importance to the living as well. Due to the bond between oral traditions and ancestors the orally transmitted wisdom always is tied to the reality of a given community.
- Another important aspect of oral tradition is the meaning of the respective concrete situation, in which traditional wisdom is applied. The oral traditions do not contain a very detailed philosophical system; rather they transport the basic knowledge and the fundamental convictions, which keep a community together beyond all diversity and differences. Such knowledge can and must not be very specific because it would then determine the community too much and hinder its development; it provides a framework, within which various forms of concretion and interpretation are permissible. This is yet another and certainly more prominent reason for traditional wisdom being passed down in the form of proverbs and fables. Putting it the other way around, this also

means that the meaning of traditional wisdom is extremely dependent upon the respective concretion. For example, Heinz Kimmerle reports that the sages conveyed their teachings for the most part in the situation of giving advice. In the process, they did not give any explicit pieces of advice, but they presented the consulters with several of the transmitted teachings [11]. The teachings must then be interpreted by means of the concrete situation, in which they are presented to the consulters. That is to say, they have to be filled with life in order to be able to unfold into meaning.

All of the emphasized aspects of oral traditions reveal that oral traditions cannot be simply put down in writing. In that process, the meaning could be lost. On the one hand, they would be ripped out of the respective, situational context, in which they receive their use and specific meaning for the first time. On the other hand, if they are put down in writing the traditions accumulate and become available for any community, so they no longer can be linked to the ancestors of a given community. They do not represent the historical wisdom of a particular community, *i.e.* its fundamental convictions, anymore. Therefore, they lose their specific authority for that particular community. They slip, so to say, from the level of current significance for the community at the present time, which they possess in an oral context, to the level of available and because of that, frequently antiquated documents of the past. Written documents by the time become detached from any particular present community. In order to still be of interest they therefore have to be relevant independently of any particular community, *i.e.* they have to be of universal relevance. Universality becomes a desideratum just here: where there brakes open a gap between the tradition of the past and its acknowledgement and reinterpretation in the present.

Therefore, African traditional wisdom has to be reinterpreted against the background of orality. It stands for a philosophy, which cannot be understood in its deeper sense with the classical tools of western thinking. The traditional wisdom cannot be put down in writing all that easily and it cannot be torn from the situational context, in which it earlier found use. Now, one would certainly have to consider more basic conditions of traditional African cultures besides the orality and, above all, one would have to look at a few examples of transmitted teachings of wisdom more closely in order to judge the actual meaning of traditional wisdom. Nevertheless, now that we have examined the oral transmission of traditional wisdom more closely, it can be identified that the traditional wisdom does not give any answers to general metaphysical questions, as one may possibly claim for the western tradition of philosophy.

On the contrary, it presents some basic knowledge of a given community in a way that it is not posited but stays rather vague and calls for clarification by applying the presented wisdom onto a concrete situation. Only in the process of this application does the traditional wisdom become substantiated: the knowledge becomes meaningful. In the process of applying the oral traditions to a concrete situation, the community assures itself, so to say, of the meaning of its own

wisdom and history. However, in the same process the individual situation becomes tied to the further outstretching dimension of that wisdom — or, so to say, it becomes located in the history of a particular community. It becomes individualized in the way it substantiates the community level as it is represented by the traditional wisdom.

Neither the community level nor the level of individual situations do make much sense as long as they are taken for granted just as they are. Both become meaningful only in the process of applying the traditional wisdom onto a concrete situation. In a way, both dimensions emanate out of the process of being referred to each other. That process, however, is exactly what makes for liveliness of a community in a given situation. So, when one would like to get to the point, African traditional wisdom makes the multidimensionality of any situation — its individuality and its localization in a historical and communal context which itself becomes substantiated by the particular situation — tangible and thus, gives it meaning. African traditional wisdom reminds the person consulting a sage in a given situation of the liveliness of his life being part of the life of a community. It is of curative rather than of explanatory character.

5. The Meaning of African Traditional Wisdom in an Intercultural Context

Where do these reflections on the particular basic conditions of traditional African cultures, such as orality, lead us to? The starting point of these reflections was the question of what an African contribution to the global discourse of philosophy could look like. Let us briefly summarize: African traditional wisdom for the most part is no source of explanations — be they metaphysical or empirical. It does not answer the big questions of philosophy. In fact, it does not really explain anything, but rather it has to be substantiated by the concrete situation of a person consulting a sage for advice. The sage does not explain or teach philosophical insights to the consulter but, by presenting several transmitted sayings he gives the consulter the chance to understand his actual situation against the background of the community's traditions. Since these traditions themselves become meaningful only in the process of being applied upon the concrete situation, the sage gives the consulter the chance to experience his situation as an actualization of the traditions of the community. The present situation thereby is experienced as a renewal of the community's traditions rather than it is understood by reference to these traditions. Accordingly, the consulter himself does not obey traditions which hold for the fundamental convictions of his community but becomes a point of crystallization for the renewal of the self-understanding of the entire community. The examination of African traditional wisdom therefore shows us that there is nothing like *the* shared convictions of a community, *the* communal history, *the* wisdom and *the* self-understanding of a community. Rather, there is a process within which all these and other dimensions become renewed on an individual just as on the communal level.

In contrast to the African tradition, in the western tradition philosophy is understood to be science in search of universal truth. The history of philosophy, therefore, is understood to be advancement on the way to unravel truth. Philosophy evolves by the insights an individual person has into universal truth, but its meaning is independent being applied to concrete situations. The individual person, therefore, is in a position of knowledge or ignorance with respect to philosophy. So, the answer to the question above, at a first stage is: African traditional wisdom cannot contribute to 'global philosophy' as long as 'global philosophy' is understood to be a science advancing on the way to unravel universal truth.

However, what we can see by now is that 'tradition', 'philosophy', 'truth', 'community', 'individuality' and many other concepts do have different meanings in the western context than they have in an African context. With respect to wisdom and philosophy, the main difference, once again, lies in the fact that African traditional wisdom has to be experienced: it cannot be known but in order to be understood it calls for experiencing a given situation as an actualization of communal traditions. In the process of this experience the respective given situation as well as the communal traditions become renewed and understood in a particular way. Let me point at just two consequences.

First, while in the western tradition, experience is meant to be restricted to nature and thus it is understood to be contingent as long as it is not organized by reason, in the African tradition experience is not restricted to the experience an individual person has of nature, *i.e.* the 'world outside mind'. As we already have seen, the consulter actually experiences the liveliness of his life by referring his concrete situation to communal traditions. Much in the same way, freedom is subject to experience; the individual person is not understood to be free by principal but this freedom is constituted by the experience that the individual represents the entire community when he substantiates the community's traditions referring them to a concrete situation. Any wisdom that cannot be experienced in an African perspective is dead wisdom and of no big relevance. Human relations, to point out just one example, have to be lived, not only stated. While at a life-worldly basis this is well known in the western tradition as well, still only absolute criteria of human relations qualify for being philosophical. Absolute criteria, however, by definition are detached from real phenomena. To bring it to the point, in an African perspective life is lively and freedom is free only as long as they actually are experienced to be so. Accordingly, they have to be renewed constantly. Thus, even what Kant calls "ideas", in an African perspective is subject to experience. This is quite in contrasts to the western tradition. The African tradition therefore raises the question of how the Kantian "ideas" are founded in the Western tradition. To go even further, from an African perspective one could ask for the foundation of reason itself. When in the western tradition any experiences already presuppose reason, what then are the grounds of reason itself? [12]

Secondly, African traditional wisdom is communal rather than universal. In a western understanding it therefore is of less validity, but not in an African pers-

pective. Since traditional wisdom is transmitted by word of mouth and therefore it is handed down by the fathers and forefathers (or, in some cases, by mothers and grandmothers) of a present community, it has been collected, found, invented, interpreted, selected and transmitted within the context of the life-world of that community. It therefore is of direct significance to that community. If it was not bound to the own community, wisdom would come from the fathers and forefathers of another community and, therefore, it would refer to a different life-world. Obviously it is less probably that such wisdom is of comparable great significance to the community. While western universal knowledge is much more powerful, from an African perspective it might be asked for the coherence of the western life-worlds which, although being particular themselves, still are oriented on universal knowledge only. That this is a legitimate question one may acknowledge thinking of discussions in the western world whether anything that scientifically is reasonable should actually be applied to the different life-worlds.

At a second stage, therefore, Africa may well have her own voice in a global discourse of philosophy. However, it does not simply contribute to the universal philosophy which the western tradition claims to be global; but rather it presents an own philosophy in the sense that philosophy means something different in the African tradition than it does in the western tradition. African traditional wisdom itself has to be analysed against the background of the basic conditions of traditional African cultures in order to make the African voice heard. Thereby it critically shows that the universality of western philosophy so far was mistaken as uniqueness and absoluteness. African traditional wisdom, therefore, calls for the 'global' philosophical discourse to become an intercultural dialogue.

6. The Invention of 'Global Philosophy' in an Intercultural Exchange

It is mostly being suggested today that the task of a philosophy of interculturality would be to devote more attention to the various traditions of thinking and to explore how these traditions can contribute to *the* 'universal philosophy'. Thereby, the universality of reason is always being presumed. According to what was shown above, I am pleading for a different understanding of the task of intercultural philosophy.

Each culture has its own tradition of thought. When these traditions meet today and come to a discussion with one another, one must not uncritically assume that they only complementarily contributed to *the* 'universal philosophy', as it is posited from the western tradition, and that they all were expressions of the one, universal reason. On the contrary, the intercultural dialogue may point out that the western philosophy and its underlying reason have their own origin, which corresponds to the history of western culture, just as the other traditions of thought correspond to their respective cultural histories. 'Philosophy' and 'reason' do mean something different in the African tradition than in the European one.

The exciting part of the intercultural dialogue then is that it brings these different philosophies into a dialogue with one another. As one acknowledges the particular validity and valence of the different philosophies and, thus, actually thinks of reason as being plural, a new and intercultural level of philosophy will develop. 'Global philosophy' in this sense, *i.e.* an intercultural level of philosophy, then means something quite different than the advancement on a universal way to universal truth. However, this intercultural level cannot be posited, rather it has to establish itself in a dialogue of the different philosophical traditions of all cultures. Or, to say it in an African diction, it has to be experienced.

NOTES AND REFERENCES

- [1] G. W. F. Hegel, *Werke in zwanzig Bänden, Bd. 12: Vorlesungen über die Philosophie der Geschichte* (Frankfurt/M., 1970, p. 129).
- [2] P. J. Hountondji, *African Philosophy: Myth and Reality* (Bloomington, 1983); for the reference to Nkrumah: see P. J. Hountondji, "The Particular and the Universal", in A. G. Mosley (ed.), *Selected Readings in African Philosophy* (Englewood-Cliff, 1995).
- [3] See P. J. Hountondji, 1983.
- [4] K. Wiredu, "Truth as opinion", in *Universitas* (Legon, 1972).
- [5] See also K. Wiredu, *Philosophy and an African culture* (Cambridge, 1980); also K. Wiredu, *Cultural Universals and Particulars. An African Perspective* (Bloomington, 1996).
- [6] I have treated this point elsewhere in some more detail: N. Weidmann, "Der gemeinsame Weg der Kulturen zu größerer Wahrheit. Eine Einführung in das Denken von Kwasi Wiredu", in *Polylog. Zeitschrift für interkulturelles Philosophieren*, 2 (1998): 6-11.
- [7] The terminus „Weltansicht“ goes back to Wilhelm von Humboldt who by this described language as man's viewpoint of the world.
- [8] K. Wiredu, 1980, p. 43.
- [9] H. O. Oruka, *Sage philosophy. Indigenous thinkers and modern debate on African philosophy* (Leiden, 1990).
- [10] This is why Stenger pleads for an intercultural philosophy beyond the antagonism of universalism and relativism. See G. Stenger, *Philosophie der Interkulturalität. Erfahrung und Welten. Eine phänomenologische Studie* (Freiburg, 2006).
- [11] H. Kimmerle, „Afrikanische Philosophie als Weisheitslehre?“, in R. A. Mall & D. Lohmar (eds.), *Philosophische Grundlagen der Interkulturalität* (Amsterdam, 1993, p. 164).
- [12] For an in-depth discussion of the phenomenon of experience, see G. Stenger, 2006.

EOLSS
Encyclopedia of Life Support Systems

Séance commune — Gemeenschappelijke zitting

19.06.2008

Welcome Address

by

André OZER*

It is a real pleasure for me as president of the Royal Academy for Overseas Sciences of Belgium to welcome you for this meeting devoted to the Encyclopedia of Life Support Systems.

Behind the initiative, there are two fellow members of our Academy, Mustafa El Tayeb and Robert Leenaerts, both members of the Section of Technical Sciences. Moreover, our colleague El Tayeb is also director of the Natural Sciences Sector of the Unesco so that in fact this event has taken shape under the auspices of both the Unesco and our Academy.

I would like to thank:

- Another member of our Academy, Darwish Al Gobaisi, editor-in-chief of the Encyclopedia of Life Support Systems and director of the International Centre for Water and Energy Systems of the Unesco;
- András Szöllösi-Nagy, deputy assistant director-general for Natural Sciences, secretary of the International Hydrological Programme and director of the Division of Water Sciences of the Unesco;
- Tarcissio Della Senta, president of the Universal Networking Digital Language Foundation.

And last but not least:

- Danielle de Lame, Jan Rammeloo and Jacques Charlier, all three of them being members of our Academy, for their fruitful participation in this joint meeting.

* Président of the Academy 2008, rue Defacqz 1/3, B-1000 Brussels (Belgium).

Evolution of a Knowledge Resource for a Better World (Encyclopedia of Life Support Systems (EOLSS) for the Decade of Education for Sustainable Development and Beyond)

by

Darwish AL GOBAISI*

KEYWORDS. — Education; Encyclopedia; Knowledge Resources; Sustainable Development; Agenda 21; Transdisciplinarity; Knowledge Integration; Evolution and Development.

SUMMARY. — This paper attempts to outline the process of development of a knowledge resource in support of human action plan in the 21st century, Agenda 21. It recalls the salient aspects of the development of Encyclopedia of Life Support Systems (EOLSS) from concept to its current state, including the inspiration behind the global effort, the challenges, and the strategies applied to realize what to many people seemed to be a wild dream. Today the EOLSS is the largest publication, the result of an unprecedented global effort, and a much sought-after knowledge source in the world. An important feature of this publication is its minimal use of natural resources which became possible, thanks to the parallel developments in publication technology and global communications. We also will describe how the structure and function of the encyclopedia have evolved since the past decade to accomplish its intended purpose.

1. Introduction: The Notion of and the Need for an Encyclopedia

Humans have long sought ways to preserve information and knowledge, and history contains many attempts at information and knowledge collection and retention. Our post-modern society is also rightly known as 'Information Society'. However, we should not be naively complacent with the notion that "Information is power", which has an implicit negative connotation too, through dividing society into information-haves and have-nots. As stated in the declaration of UN's World Summit on the Information Society (WSIS) the global challenge is to build an inclusive Information Society — in other words, a knowledge-based 'Informed Society'. Thus, knowledge is not a mere power, but it is

* Member of the Academy; Editor-in-chief of Encyclopedia of Life Support Systems, Co-chairman of the UNESCO-EOLSS Joint Committee, and Director of the International Centre for Water and Energy Systems (ICWES), P.O. Box 2623, Abu Dhabi (UAE).

all about empowerment. The “right to education” and the “right to development” are an integral part of the Universal Declaration of Human Rights. However, it is a sad truth that the ‘digital-divide’ is exacerbating the impoverishment of least developed countries and marginal societies, not only in material terms, but even in information and knowledge dissemination.

Knowledge is dynamic. It grows and evolves according to the needs of human society. In the past, different civilizations categorized knowledge to suit the cultural paradigm of their times. A key focus of the present time, and an area demanding much further investigation, is the relationship between humans and nature. Sciences must be our guide in this endeavour, but history too can teach us important lessons of co-existence with our environment. To date, education and the media have only succeeded in fostering a culture characterized by narrow vested interests, intolerance and violence. There must be a fundamental change in education, creating the desire for proactive environmental protection and respect for human dignity and rights, as the two are mutually empowering.

Humans are empowered by education. Education provides knowledge and skills to enable us to understand the world around us and to make a good living in it. Sources of knowledge are of paramount importance since they form the basis for education. Until the appearance of printing, knowledge preservation in human history went through many stages of development starting from mere memorization in the living human minds. The term *Bibliography*, which we use today, denotes a list of entities containing knowledge. Bibliothek means library — a place where sources of knowledge are kept in an organized way. It is widely known that the material that made up the holy books such as Vedas, Tripitaka (Tipitaka), Classics of Confucianism (four books and five scriptures), Tao Literature, Avesta, Talmud or Old Testament, Indigenous Mesoamerican literatures, Bible, Koran, etc. was originally transmitted orally — that is, by word of mouth and preserved by memorization and oral transmission from generation to generation. Other forms of preserving knowledge include inscriptions and etchings on stone, indenting on clay tablets, writings on walls, papyrus, bone, leather scrolls, etc. Printing came about five hundred years ago, relatively recently in the history of human communication. Printed books became the main medium of knowledge preservation and dissemination. For some time, films and microfiches became helpful in reducing the space requirements for storage, distribution, and handling. We have now entered an age of new technologies, adding new dimensions to the concept of a book for its medium, distribution, and use. We have multimedia publications which include presentations not only in text and graphics, but have sound, and animation too.

The amount of knowledge and information in a publication determines its size. A publication with text and graphics can be as short as a flyer; it can be an article on a specific topic, a booklet containing a brief account of a specific topic, a treatise making a comprehensive presentation of a specific topic, a book or handbook with an extensive coverage of a subject or a set of books. When the cover-

age becomes comprehensive, either on different aspects of one subject, or a set of related subjects, the set of books is termed as 'encyclopedia'. Most encyclopedias are alphabetically organized presentations of items somewhat like expanded dictionaries. From the beginning of recorded history to the present, the concept of an encyclopedia has fascinated man. The desire to authoritatively compile, condense, summarize and readily make available to the public and succeeding generations the cumulative knowledge of humanity can be traced back to many civilizations and it has endured and matured to the present time. The expression encyclopedia became commonly used in the sixteenth century, although earlier works were known for many centuries before in ancient China and Egypt. Many historians say that the first known encyclopedia was on natural history and prepared during the first century AD by Pliny. During the Middle Ages, several types of encyclopedias were published. Gutenberg's invention, in 1438, of the printing press led to major advances in book, including encyclopedia publishing.

There are great encyclopedias also in other languages of the world, Brockhaus in German and Larousse in French to mention a few. By 1900, the general principles of the form which an encyclopedia should take were universally accepted:

- Language: the language of the country in which it was published;
- Organization: alphabetical order of entries;
- Entries: on any subject written by specialists with illustrations, photos, maps, etc., including living people's bibliographies, cross-references in the text, bibliography for further reading;
- Subject specialists employed as subeditors;
- A separate Atlas;
- Supplements for updates.

Although most printed encyclopedias continue to conform to this model, the availability of new information technologies is prompting an exploration of alternative forms for encyclopedias.

Encyclopedias dedicated to special scientific disciplines also have been published. Examples: McGraw Hill Encyclopedia of Science and Technology, Encyclopedia of Systems and Control (edited by M. G. Singh), Encyclopedia of Environmental Sciences (edited by P. C. Young), the Ullmann Encyclopedia of Industrial Chemistry, etc.

2. The Inspiration and Motivation for the Encyclopedia of Life Support Systems (EOLSS)

2.1. THE EARLY WARNINGS

If we go back fifty years in the timeline, till the late 1950s and the early 1960s, 'modern society' was thrilled by a sense of triumph over Nature, due to indus-

trialization. The developed societies were ecstatic with the results of industrial mass production. However, since the 1960s and 1970s, there has been an increasing realization of 'diminishing marginal utilities' from the material comforts. The first call of environmental consciousness may be attributed to Rachel Carson's 'Silent Spring' in 1962 and to Garrett Hardin's 'Tragedy of the Commons' in *Science* (1968), which soon turned into a flood of ecological revolution. The first visual graphics taken from the moon in 1969 portrayed the Earth as a lone blue 'living' planet in the space, thus creating a 'spaceship image' of the earth in the minds of the people. In 1972, the Club of Rome's 'The Limits to Growth' depicted the gloom and doom scenario, illustrating dire consequences if growth was not controlled. The seminal work on Chloro-Fluoro-Carbons (CFCs), in 1974 in *Nature* journal by Sherwood Rowland and Mario Molina, warned that if human use of CFC gases was to continue at an unaltered rate, the ozone layer would be depleted by many folds after some decades.

2.2. THE FIRST GLOBAL RESPONSES

The *United Nations Conference on Human Environment* — held in Stockholm in 1972 — officially launched the concept of conservation and it led to the establishment of the UNEP. The Vienna Convention (1985), the Montreal Protocol (1989) and the subsequent follow-ups successfully addressed the challenge of phasing-out CFC substances worldwide. The World Business Council's attempts to integrate conservation and development were translated into 'Our Common Future' (The Brundtland Report) in 1987, thus formally defining the goal of "Sustainable Development". The *United Nations Conference on Environment and Development* held in Rio de Janeiro, Brazil, in 1992, popularly known as the *Earth Summit*, was the first ever attempt to set a holistic and all-inclusive agenda (*Agenda 21*) for a conservation-based development.

2.3. THE GENESIS OF THE EOLSS

A group of scientists, engineers, managers, and academicians who were associated with the development of power and water resources in the arid desert land of Abu Dhabi (UAE), began to be increasingly concerned about the many issues around their main fields of activity. Darwish Al Gobaisi, who was heading the Power and Desalination Directorate of the Government of Abu Dhabi, took lead in formulating the steps for the EOLSS project. At first, the Encyclopedia of Desalination and Water Resources (DESWARE) was developed and made available online at www.desware.net.

While working on the development of DESWARE, Al Gobaisi's group came across a 'warning' which was issued on November 18, 1992, by some of the world's senior scientists from seventy countries, including one hundred and two of the living scientists who are Nobel Laureates, to government leaders of all

nations as part of the *United Nations Conference on Environment and Development* (the Earth Summit) held in Rio de Janeiro, Brazil:

The environment is suffering critical stress... Our massive tampering with the world's interdependent web of life — coupled with the environmental damage which is inflicted by deforestation, species loss, and climate change — could trigger widespread adverse effects, including unpredictable collapses of critical biological systems whose interactions and dynamics we only imperfectly understand. Uncertainty over the extent of these effects cannot excuse complacency or delay in facing the threats.

No more than one or a few decades remain before the chance to avert the threats we now confront will be lost and the prospects for humanity immeasurably diminished...

A great change in the stewardship of the Earth and the life on it is required, if vast human misery is to be avoided and our global home on this planet is not to be irretrievably mutilated... Acting on this recognition is not altruism, but enlightened self-interest. Whether industrialized or not, we all have one lifeboat. No nation can escape injury when global biological systems are damaged. No nations can escape from conflicts over increasingly scarce resources. In addition, environmental and economic instabilities will cause mass migrations with incalculable consequences for developed and underdeveloped nations alike...

A new ethic is required — a new responsibility for caring for ourselves and for the Earth. We must recognize the Earth's limited capacity to provide for us... We must no longer allow it to be ravaged. This ethic must motivate a great movement, convincing reluctant leaders and reluctant governments and reluctant peoples themselves to effect the needed changes.

The Talloires Declaration of October 1990, by the Association of University Leaders for a Sustainable Future, was a significant forerunner to the Earth Summit held in Rio de Janeiro in 1992. The declaration of the latter, endorsed by governments of most of the world's nation states, was the most prominent among the many documents that highlight the impending crisis. The Rio summit was followed by several other events which include: the *Global Conference on Sustainable Development of Small Island Developing States*, Barbados, 1994; the *International Conference on Population and Development*, Cairo, 1994; the *World Summit on Social Development*, Copenhagen, 1995; the *Fourth World Conference on Women*, Beijing, 1995; the *Second UN Conference on Human Settlements, Habitat II*, Istanbul, 1996; the *World Summit on Sustainable Development* (WSSD), Johannesburg, 2002; the *World Summit on the Information Society* (WSIS), Geneva, 2003 & Tunis, 2005; and other non-UN forums. All of these, and many other events, have raised awareness and contributed to the concept of sustainable development.

The effort on the EOLSS has been much inspired by Agenda 21 and the 1992 Rio Earth Summit, and is in harmony with the UNESCO's unwavering commitment to the dissemination of data, information and knowledge to enhance the systematic development of knowledge for progress, development and peace through

education in society. Today, a very important world issue being that of sustainable development, for human actions to be based on well-informed decisions, the need for an integrated knowledge source encompassing the various fields of knowledge pertinent to the Earth System, that is, a knowledge source accessible at one location and cutting across natural and social Sciences is evident. The motivation for an appropriate knowledge base has become strong. This effort is considered as a very important step towards global stability and security.

3. Systemic Features of the Encyclopedia of Life Support Systems

An appropriate presentation of huge volumes of information and knowledge encompassing the many different facets of sustainable development is vital and needed. The EOLSS has now become a web-based integrated compendium of twenty component encyclopedias, growing from a recent sixteen encyclopedias. It attempts to forge pathways between disciplines in order to show their interdependence and helps foster the transdisciplinary aspects of the relationship between nature and human society. It deals in detail with interdisciplinary subjects, but it is also disciplinary as each major core subject is covered in great depth by world experts. The whole text accounts for about six hundred e-books including thousands of graphs, figures and tables. The purpose of this work is to provide a synopsis of the EOLSS with a particular focus on historical events leading to the development of the encyclopedia.

3.1. CONTENT OF THE EOLSS

The EOLSS body of knowledge (BOK) may be broadly categorized in three major interrelated subject bodies of knowledge:

- Global Issues and Sustainable Development;
- Essential Life Support Systems;
- Knowledge Foundations or Fundamental Science.

On the basis of this, originally the EOLSS BOK was classified into the following six areas: Global Issues and Sustainable Development, Water, Energy, Environment, Food & Agriculture, and Knowledge Foundations. This classification was subsequently found to be inapplicable in view of the strong interplay between the various areas and the features of search that render such partitioning unwarranted. The Encyclopedia of Life Support Systems (EOLSS) is currently an integrated compendium of twenty encyclopedias on:

1. Earth and Atmospheric Sciences
2. Mathematical Sciences
3. Biological, Physiological and Health Sciences
4. Biotechnology

5. Tropical Biology and Conservation
6. Land Use, Land Change and Soil Sciences
7. Social Sciences and Humanities
8. Physical Sciences, Engineering and Technology Resources
9. Control Systems, Robotics and Automation
10. Chemical Sciences Engineering and Technology Resources
11. Water Sciences, Engineering and Technology Resources
12. Energy Sciences, Engineering and Technology Resources
13. Environmental and Ecological Sciences, Engineering and Technology Resources
14. Food and Agricultural Sciences, Engineering and Technology Resources
15. Human Resources Policy and Management
16. Natural Resources Policy and Management
17. Development and Economic Sciences
18. Institutional and Infrastructural Resources
19. Technology, Information and System Management Resources
20. Area Studies (Africa, Brazil, Canada and USA, China, Europe, Japan, Russia)

It is interesting to note that this represents a growth of four component encyclopedias as compared with the sixteen that were detailed as late as October 2006:

4. Biotechnology;
5. Tropical Biology and Conservation;
6. Land Use, Land Change and Soil Sciences
9. Control Systems, Robotics and Automation.

This represents, in no sense, a sudden awareness of the existence and importance of this subject matter. The developers of the EOLSS were long aware of this subject matter and its importance. What occurred in recent times was an awareness that the subject matter in the initial three encyclopedias

3. Biological, Physiological and Health Sciences
8. Physical Sciences, Engineering and Technology Resources
16. Natural Resources Policy and Management

which contained these is so enormous that organizationally, they have to be treated as encyclopedias in their own right. Therefore, the above four (4, 5, 6, 9) have been now brought out from their original placement in (3, 8, and 16) as full-fledged encyclopedias. EOLSS had become so large that a better organizational structure would result by so disaggregating some of this subject matter into additional encyclopedias. This is in keeping with the organization of the EOLSS in an adaptive and evolutionary manner.

The EOLSS is dedicated to the health, maintenance, and future of the web of life on planet Earth, focusing on the complex interconnections among all the

myriad of recent and relevant aspects of these subjects that vary from natural and social sciences through water, energy, land, food, agriculture, environment, biodiversity, health, education, human rights, poverty, human settlements, culture, engineering and technology, vulnerability analysis, management, and development for environmental security.

The EOLSS development itself started with the following mission statement:

The Encyclopedia of Life Support Systems (EOLSS) will present a comprehensive, authoritative, and integrated body of knowledge of life support systems. It is a forward-looking publication, designed as a global guide to professional practice, education, and heightened social awareness of critical life support issues. The EOLSS will be a dependable source of knowledge for use in human endeavors aimed at development of remedial measures to counter the current practices, which imperil the Earth's essential life support systems. Science, technology, and management policies for sustainable use of life support systems will be emphasized together with issues of global change and their ecological, economic, social, cultural, and political dimensions. The EOLSS will enhance the systematic development of sustainable measures to provide long term sources of water, energy, health, biodiversity and food that are essential for global stability, security, and peace. In particular, the EOLSS will present perspectives from world-wide regions and cultures, and will be free from geographic, racial, cultural, political, gender, age, or religious bias.

Here is the definition of 'Life support Systems' in the context of the EOLSS:

A life support system is any natural or human-engineered (constructed or made) system that furthers the life of the biosphere in a sustainable fashion. The fundamental attribute of life support systems is that together they provide all of the sustainable needs required for continuance of life. These needs go far beyond biological requirements. Thus life support systems encompass natural environmental systems as well as ancillary social systems required to foster societal harmony, safety, nutrition, medical care, economic standards, and the development of new technology. The one common thread in all of these systems is that they operate in partnership with the conservation of global natural resources.

In the past, equipment in the intensive care units of hospitals was referred to as 'life support systems' until global concerns about human activities and their impact on our planet came to the fore. The Earth Summit of 1992, held in Rio de Janeiro, issued a document that is now famous as Agenda 21. This document refers to the Earth's life support systems, considering the whole of our planet as a grand intensive care unit which supports all forms of life. The EOLSS is based on this concept and the above definition of 'life support systems'. Agenda 21 provides guidelines for human action in the 21st century and it is structured as shown in figure 1.

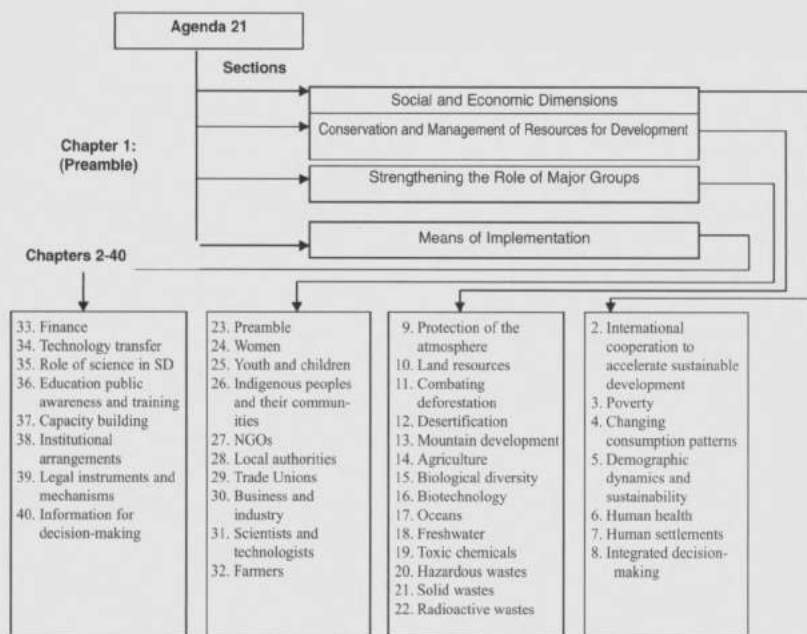


Fig. 1. — Agenda 21.

Knowledge of the Earth's life support systems encompasses diverse fields such as: natural sciences (chemistry, biology, etc.); social sciences (history, economics, law, archeology, etc.); humanities (literature, civilizations, etc.); engineering, and technology. It also deals with interdisciplinary subjects, like earth and atmospheric sciences and environmental economics as well as the most effective approaches for managing natural resources like renewable and non-renewable energy, biodiversity, ecology, hydrology, health and agriculture, biotechnology. Pathways and interchange need to be established between disciplines in order to address contemporary problems. Transdisciplinary aspects of the relationship between nature and human society (the anthroposphere) are essential in this context. The EOLSS comprehensively examines all aspects of the opportunities and threats facing all the systems that support life on Earth: from the climate, the world's oceans, forests, water cycle, and atmosphere, to social and human and technological systems. It is becoming increasingly apparent that our complex industrial systems, both organizational and technological, are the main driving force of global environmental destruction, and thus the main threat to the long-term survival of humanity. They also provide much needed potential improvements in the human condition if they are developed and managed wisely. To build a sustainable society for our children and future generations — the great challenge of our time — we need to fundamentally redesign many of our technolo-

gies and social institutions so as to bridge the often wide gap between human design and the ecologically sustainable systems of nature. *This means that organizations need to undergo fundamental changes, in order both to adapt to the new business environment and to become ecologically sustainable.*

A good summary of the evolution of knowledge concerns in sustainable development may be found at the UNESCO site (<http://www.unesco.org/science/wes/eng/framework.htm>). The role of the EOLSS in the process of sustainable development may be depicted as shown in figure 2. The Earth System is usually considered in terms of three highly interacting subsystems as illustrated in figure 3.

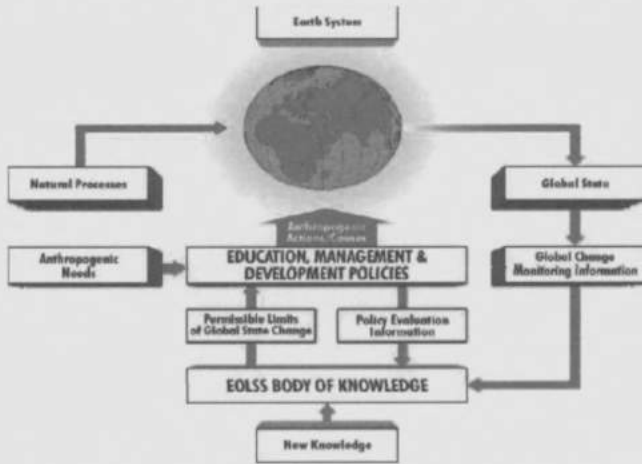


Fig. 2. — EOLSS envisaged as a knowledge support system in the process of sustainable management of the Earth System.

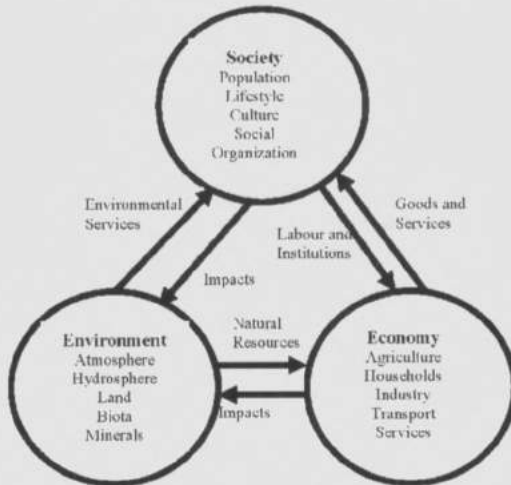


Fig. 3. — Economic, social and natural components of the Earth System in intense interaction.

Science for knowledge; knowledge for progress
Science for peace
Science for development
Science in society and science for society

DECLARATION ON SCIENCE AND THE USE OF SCIENTIFIC KNOWLEDGE
World Conference on Science, Budapest, 1 July 1999

The contributions in the EOLSS offer step-by-step explanations on how to apply the abstract or the pure sciences such as mathematics, to assess environmental pollution or to predict food consumption patterns. It is recognized that technical solutions alone will not resolve the current ecological crisis. EOLSS therefore covers a diverse range of social issues — from human rights and poverty to psychology and anthropology. The leading experts who have contributed to the EOLSS come from diverse fields. It is fully recognized that critical and needed approaches for managing life on Earth cannot be obtained through a single discipline. The EOLSS provides not only the technical information required but also the transdisciplinary perspective needed to bring about sustainable solutions.

Unlike general Encyclopedias, EOLSS also includes specialized in-depth subject coverage, such as continuum mechanics, phytoremediation, extremophiles, tropical biology, computational mathematics, history of mathematics, optimization, mathematical economics, soil sciences, pollution technologies, biometrics, environmetrics, systems science and cybernetics, nanoscience and nanotechnologies, heat transfer, organic and inorganic chemistry, medical sciences, pharmacology, immunology, physiology, reproduction and development biology, ethno-pharmacology, pharmacognosy and phytochemistry, etc.

The presentations in the many writings discuss knowledge principles, paradigms, methodologies, examples, practices, case studies, and perspectives.

The planned and realized contributions to the EOLSS have rendered it as an *expert advisory associate* that summarizes the state of the art and presents formal knowledge principles, knowledge practices, and likely future knowledge perspectives. The realized contributions suggest bibliographic sources for further study. Information and knowledge, which is vital for the process of decision-making, is provided throughout the encyclopedia. The EOLSS may therefore be viewed as one very large and well-integrated BOK.

3.2. STRUCTURE, FUNCTION AND PURPOSE OF THE EOLSS

The EOLSS BOK was developed on a structural framework that resulted from an unprecedented set of global interactions among a large number of volunteers. Due to the transdisciplinary nature of sustainable development issues, the need for integration of the various disciplines was perceived as a must. The use of essential natural resources or natural environment capital must be orchestrated and enhanced through human engineering efforts to ensure that the resulting

deployed systems are sustainable in a broad sense: ecologically, economically, and technologically. The Encyclopedia is consequently designed to provide comprehensive data, information, and knowledge concerning contemporary life support issues of global sustainable development, life support systems, and an integrated presentation of the knowledge base of natural and social sciences, engineering and technology, and humanities.

The Encyclopedia is designed to appeal to a wide spectrum of users — from the merely curious to those seeking in-depth knowledge. To satisfy the diverse users and purposes, the knowledge portrayal in the EOLSS has the following characteristics:

- Popular appeal, by providing widely understandable presentations;
- Educational relevance, through presentations that emphasize knowledge principles, or fundamentals, and their applications;
- Professional utility, through descriptions of knowledge practices and their applications;
- Research relevance, through presentation of knowledge principles that are of general value to specialists who wish to undertake study in related subjects;
- Future and policy orientation, through provision of knowledge perspectives that are useful for obtaining forecasts of trends in science, technology, and social programmes.

The Encyclopedia is intended to serve as a valuable guide and reference for the large number of people who have interest and need for information and knowledge relative to life support systems and sustainable development and fundamental sciences. It is intended to be the literary equivalent of an expert advisor, a sophisticated expert system, which can be used to support summarization of the state-of-the-art in one or more subject areas and in transdisciplinary studies, identify formal knowledge principles, relevant knowledge practices and likely future knowledge perspectives, and suggest additional sources of relevant material. In this way, the Encyclopedia may be regarded as a source of carefully organized knowledge and not just a provider of raw and non-integrated information and data.

3.3. FEATURES OF THE EOLSS

There is a major and growing need for a knowledge source that presents authoritative, comprehensive, and integrated approaches to the science, technology, and management of natural, technological, and human resources necessary for life support. The EOLSS is developed to meet these needs through provision of the following features.

1. The EOLSS contains a thematic presentation of knowledge in a manner that will be helpful for the development of initial, as well as long-term, understanding of relevant multidisciplinary aspects of life support systems.

2. The EOLSS includes comprehensive coverage of the subject matter, from its origin to the present state-of-the-art with discussions of significant contemporary advances and future perspectives.
3. The EOLSS provides a lucid, pedagogical, and authoritative presentation of information that will be of value for scientific, engineering, management, and policy-making purposes in these areas, as well as for technology transfer across nations and regions of the world with broadly divergent social and cultural outlooks.
4. The EOLSS presents a detailed description and analysis of water, energy, environmental, health, biodiversity and food & agricultural resources and fundamental sciences.
5. The EOLSS discusses sustainable development and global security issues, especially as they apply to essential life support systems.
6. The EOLSS enables exploration of the knowledge foundations needed for development of these resources in such a way that they are suitable for self-study, through presentations of overview and specific contributions in each of the now twenty major areas of the Encyclopedia.

The EOLSS is intended to be especially useful for those with diverse needs in science, technology, systems management, and relevant policy assessment through the provision of carefully structured presentations, indexes, and overview writings.

There are five major target audiences for the EOLSS:

1. University/college students (undergraduates and graduates) who wish to introduce themselves to a particular subject in the life support areas.
2. Professors and educators, interested in the subject areas of the Encyclopedia and some who may wish to prepare a comprehensive coverage of these subjects for lecture and seminar presentations.
3. Professional practitioners and informed specialists who wish to refresh and update their knowledge, and to relate their knowledge to applications and to fields cutting across their own specialties.
4. Research personnel who wish to inform themselves about innovations and new approaches to problem solving, especially in related areas of intellectual inquiry.
5. Policy assessors, managers, and decision-makers in the public and private sectors, including development officials and non-governmental organizations, who wish to equip themselves with the systems management knowledge required to better incorporate science and technology in their decision-making.

The EOLSS presentations are presented at different levels to suit audiences having different backgrounds and interests.

3.3.1. Three-level Themes

There are full length chapters at three levels in certain theme subjects as shown in figure 4a. In such cases the various levels of writing are characterized as follows and the EOLSS web of knowledge is woven over a hierarchical structure through cross-reference links as shown in figure 4b.

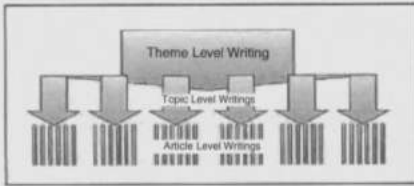


Fig. 4a. — The three-level structure.

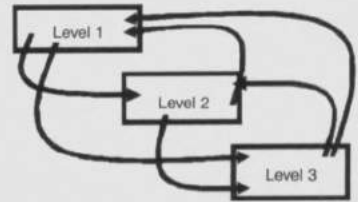


Fig. 4b. — The web of links in the three-level structure.

A topic-level contribution in a three-level theme provides a broad perspective of the subject to be covered. The contributions will be accessible to advanced students who want to begin or advance their knowledge in a particular subject area. The length of topic-level contributions is expected to be in the region of 10,000 to 15,000 words.

Article level contributions: articles will cover a subject in depth and contain relevant and necessary details of the established knowledge associated with it. Although articles present an increased depth of knowledge not found in the higher-level contributions, to be of value to the various target audiences, they should be structured so as to appeal to both the non-specialist and the expert in related fields who seek a comprehensive understanding of efforts in the subject of the article. To achieve this objective, articles should have a self-contained introduction that presents background information allowing the reader — whether student, practitioner or researcher — to gain a relatively complete picture without the need to delve further into the article for detailed discussions. Articles should contain the latest advances and results in the subject area. The length of articles is generally expected to be in the region of 5,000-10,000 words.

3.3.2. Two-level Themes

There are full length chapters at two levels in some themes as shown in figure 5a. In these cases the various levels of writing are characterized as follows and

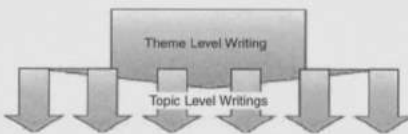


Fig. 5a. — The two-level structure.

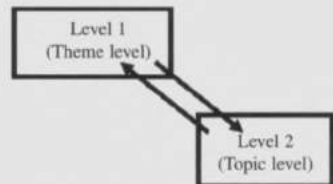


Fig. 5b. — The web of links in the two-level structure.

the EOLSS web of knowledge is woven over a hierarchical structure through cross-reference links as shown in figure 5b.

Topic-level contributions in two-level themes: topics will cover a subject in depth and contain relevant and necessary details of the established knowledge associated with it. Although topics present an increased depth of knowledge not found in the higher-level contributions, to be of value to the various target audiences, they should be structured so as to appeal to both the non-specialist and the expert in related fields who seek a comprehensive understanding of efforts in the subject. To achieve this objective, topics should have a self-contained introduction that presents background information allowing the reader — whether student, practitioner or researcher — to gain a relatively complete picture. Topic-level writings should contain the latest advances and results in the subject area. The length of topic-level contributions is expected to be in the region of 10,000 to 15,000 words.

A theme-level contribution in both the three-level and two-level themes is to be like a treatise on the subject and be accessible to a wide audience including non-experts by saying what the theme is about and present a perspective of the theme subject in all its aspects such as nature, history, overview of development and state-of-the-art. It has to establish the scope of the branches of the theme field in terms of topics that will follow within the theme. It is not intended to offer in-depth analysis of the micro-level details of a particular subject, but rather to integrate all aspects of the topics that fit within the theme. It is also not intended to merely summarize the topics covered in the theme. The length of theme-level contributions is expected to be in the region of 15,000 to 20,000 words.

4. Historical Development of the EOLSS List of Contents. An Unprecedented Global Effort

In May 1996, over four hundred and fifty scientists, engineers, and policy makers gathered in the Bahamas to participate in the discussions concerning the definition of the BOK of a comprehensive source of knowledge for our times which is now published as the Encyclopedia of Life Support Systems (EOLSS). The Bahamas Workshop, as it is referred to, was the culmination of the international collaborative efforts to generate a detailed list of contents and build a broad consensus for the acceptance of its structure.

4.1. BAHAMAS WORKSHOP 1996 (figs. 6, 7, 8)



Fig. 6. — Plenary session: Allan Hammond giving the plenary lecture (Bahamas Workshop, 1996).





Fig. 7. — A sample of the parallel sessions.



Fig. 8. — National delegations (some members of the Chinese delegation).

4.2. POST-BAHAMAS EFFORT

The Bahamas Workshop followed several smaller workshops that had been held earlier in 1996: in Washington DC (January 25-28), Tokyo (March 7-8), Moscow (March 13-15), Mexico City (March 28-29), and Beijing (March 29-31). In addition, a team of scientists from the French Academy of Sciences provided an assessment and recommendations. These earlier meetings and the Bahamas Workshop were devoted not only to the overall philosophy and scope of the EOLSS but also to an identification of in-depth coverage of EOLSS BOK (fig. 9).

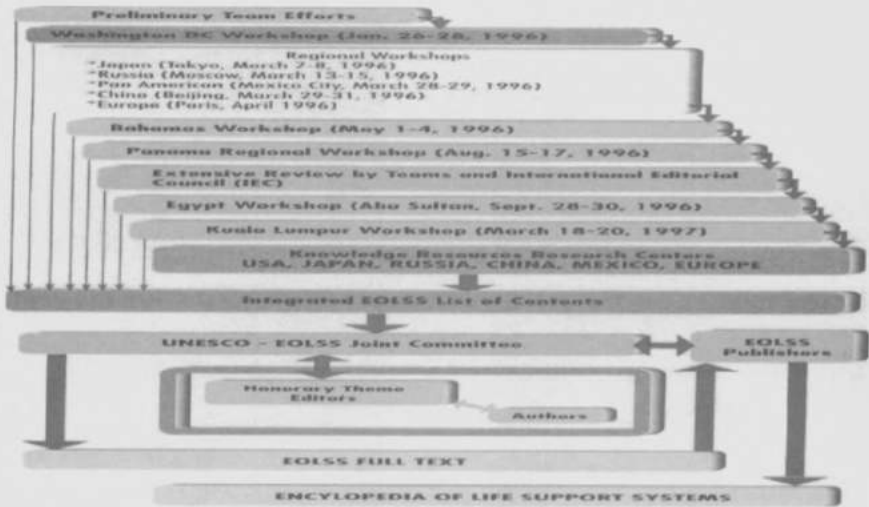


Fig. 9. — History of development of EOLSS list of contents.

Other specialist teams of experts in salient fields in Japan, USA, Russia, China, Mexico, etc. were requested to examine the Bahamas workshop list of contents and to recommend improvements. This assessment and revision process was developed through meetings wherein the list of contents was subjected to a systematic procedure of evaluation and enhancement. The most important among these were the August 1996 meeting in Panama of the Regional Committee for South and Central America, the September 1996 Abu Sultan meeting of the Regional Committee for Africa and the Middle East, and the March 1997 Kuala Lumpur meeting of the Asian Regional Committee (fig. 10).



Fig. 10. — Kuala Lumpur meeting of the Asian Regional Committee (March 1997).

The International Editorial Council (IEC) is distinguished by a number of Nobel and UN Kalinga Laureates, World Food Prize Laureates and several fellows of academies of science and engineering of countries throughout the world (<http://www.eolss.net/Eolss-International-Editorial-Council.aspx>).

4.3. UNESCO-EOLSS JOINT EFFORT

A Memorandum of Understanding was signed in 1997 to formalize the cooperation between UNESCO and EOLSS, which had been developing steadily through the series of workshops and committee meetings. A UNESCO-EOLSS Joint Committee (<http://www.eolss.net/Eolss-Unesco-Joint-Committee.aspx>) was established to manage the process of development of the EOLSS (figs. 11, 12). The inaugural version of the EOLSS was formally released online at www.eolss.net in 2002 by the UNESCO during the World Summit on Sustainable Development in Johannesburg, South Africa. Five volumes in print introducing and capturing the perspectives of the EOLSS are also released, two in 2001 at the UNESCO Executive Board Meeting and three at the Johannesburg Summit:

- *OUR FRAGILE WORLD (OFW): Challenges and Opportunities for Sustainable Development*, Vols. I and II, 2001, 2263 pp. (ISBN: 0 9534944-7-0).
- *KNOWLEDGE FOR SUSTAINABLE DEVELOPMENT (KSD): An Insight into the Encyclopedia of Life Support Systems*, Vols. I, II and III, 2002, 3490 pp. (ISBN: 0 9542989-0-X).



Fig. 11. — Some members of the UNESCO-EOLSS Joint Committee (1997 Meeting in Paris).



Fig. 12. — Some members of the UNESCO-EOLSS Joint Committee with their families (1997 Meeting in Paris).

4.4. EOLSS INAUGURATION AT THE WORLD SUMMIT, JOHANNESBURG 2002

The official launch of EOLSS took place on 3 September 2002 at this meeting in Johannesburg at Ubuntu Village, Dwarf Natal Plum Room at 11.00 AM. A detailed live on-going demonstration of the electronic capabilities of the EOLSS was also available at the EOLSS exhibition, as part of the UNESCO exhibition, at Ubuntu Village (figs. 13, 14, 15).



Fig. 13. — Inauguration of EOLSS-September 2002 (Editor-in-chief Al Gobaisi and UNESCO Director General Koïchiro Matsuura at the Johannesburg Summit).



Fig. 14. — Inauguration of EOLSS (September 2002).



Fig. 15. — Ubuntu Village Exhibition Stand (September 2002).

5. EOLSS TODAY

The EOLSS home page at www.eolss.net carries the following statement:

"KNOWLEDGE FOR OUR TIMES"

Knowledge is dynamic. It grows and evolves according to the needs of human society. In the past, different civilizations categorized knowledge to suit the cultural paradigm of their times. A key focus of the present time, and an area demanding much further investigation, is the relationship between humans and nature. Sciences must be our guide in this endeavor, but history too can teach us important lessons of co-existence with our environment. To date, education and the media have only succeeded in fostering a culture characterized by narrow vested interests, intolerance and violence. There must be a fundamental change in education, creating the desire for proactive environmental protection and respect for human dignity and rights, as the two are mutually empowering.

The EOLSS body of knowledge is inspired by a vision that includes the following paradigm: the sciences should be at the service of humanity as a whole, and should contribute to providing everyone with a deeper understanding of nature and society, a better quality of life and a sustainable and healthy environment for present and future generations.

This vast work contains contributions from thousands of scholars, about eight thousand, from over one hundred countries and edited by nearly four hundred subject matter experts. It is subjected to augmentation and updating as often as every month. Efforts are also under way to publish the entire EOLSS in the form of e-books whose number is expected to be about six hundred with the provision of print-on-demand. Now it is rapidly maturing as an integrated compendium of twenty component encyclopedias. Every chapter is reviewed by at least two experts in addition to the subject editor to ensure that the contributions meet the required standards of comprehensiveness, clarity, coherence, and consistency and that the material is factually correct and helpful in self-study.

The EOLSS has rapidly become a most sought-after reference site. A user statistics in 2006 and 2007 showed that the number of visitors over the two years was approximately thirteen million. These figures are steadily increasing over time. Many details concerning the EOLSS may be found at the official EOLSS Publishers Universal Resource Locator (URL) or web site: www.eolss.net.

5.1. UPDATING, AUGMENTATION AND TRANSLATION INTO MAJOR WORLD LANGUAGES

Efforts are under way to translate the EOLSS into some major languages of the world, other than English, in collaboration with the Universal Networking Digital Language (UNDL) Foundation. The first International Workshop on Natural Language Processing Using the Universal Networking Language (UNL), took place from 4-7 May 2007 at Alexandria, Egypt. UNDL started to work with the six official UN languages. Twelve UNL language centres situated in France,

Russia USA, Cairo, São Paulo, Madrid, Tokyo, China, etc. are participating in this work (fig. 16).



Fig. 16. — UNESCO-EOLSS-UNDL Meeting (Abu Dhabi, April 2006).

6. Opinions on the EOLSS

It is heartening to note that this international effort received comments of appreciation from many quarters including some prominent persons, editors and authors. A sample of the opinions is presented in the following.

6.1. DISTINGUISHED PERSONS

EOLSS has the goal to provide a firm knowledge base for future activities to prolong the lifetime of the human race in a hospitable environment.

Richard R. Ernst,
Nobel Laureate in Chemistry

The EOLSS is not only appropriate, but it is imaginative and, to my knowledge, unique. Much of what we can write about science, about energy, about our far-ranging knowledge base, can indeed be found in major encyclopedias, but as I understand your vision, never as a central theme; the theme of humanity, embedded in nature and constrained to find ways of maintaining a relationship with nature based upon understanding and respect.

Léon M. Lederman,
Nobel Laureate in Physics

Pursuit of knowledge and truth supersedes present considerations of what nature, life or the world are or should be, for our own vision can only be a narrow one. Ethical evaluation and rules of justice have changed and will change over time and will have to adapt. Law is made for man, not man for law. If it does not fit any more, change it... Some think that it is being arrogant to try to modify nature; arrogance is to claim that

we are perfect as we are! With all the caution that must be exercised and despite the risks that will be encountered, carefully pondering each step, mankind must and will continue along its path, for we have no right to switch off the lights of the future... We have to walk the path from the tree of knowledge to the control of destiny.

Jean-Marie Lehn,
Nobel Laureate in Chemistry

EOLSS is concerned with the Life Support Systems. Each of these systems is a very complex one. [...] we have to think of all these "systems" as closely related "subsystems" of the Planet Earth System. [...] Rational decisions will be more and more possible to envision if one will be able to couple the physical modeling to economic and financial models and to human factors...

J. L. Lions,
Japan Prizewinner in Applied Mathematics

The Encyclopedia of Life Support Systems is different from traditional encyclopedias. It is the result of an unprecedented world-wide effort that has attempted to forge pathways between disciplines in order to address contemporary problems [...] [It is] A source-book of knowledge that links together our concern for peace, progress, and sustainable development, the EOLSS draws sustenance from the ethics of science and the culture of peace. At the same time, it is a forward-looking publication, designed as a global guide to professional practice, education, and heightened social awareness of critical life support issues. In particular, the EOLSS presents perspectives from regions and cultures around the world, and seeks to be free from geographic, racial, cultural, political, gender, age, or religious bias.

Kōichiro Matsuura,
UNESCO Director General

Our best hopes for future peace and global security rely upon strengthened international cooperation to protect the web of life support systems that we destroy, so ridiculously, day in and day out. We share only one planet. We — and future generations — have nowhere else to go. [...] It is hoped that the encyclopedia will provide the necessary impetus and knowledge support to enable humanity to choose the right direction to move towards sustainable development.

Mostafa K. Tolba,
former Executive Director of the United Nations Environment Programme
and editor of OFW (a related EOLSS forerunner series of two printed volumes)

Most United Nations projects of this size begin by consulting government representatives. But EOLSS went straight to the scientific communities involved. [...] From the start, we had to be absolutely certain that one school of thought did not dominate the conceptual basis of the encyclopedia. [...] This democratic process guided every step in the encyclopedia's development. With thousands of authors from more than 100 countries, the editors have set up a self-regulating mechanism to assure that the subjects are not dominated by Western world views.

Andras Szollosi-Nagy,
Director of UNESCO's International Hydrological Programme

6.2. EOLSS EDITORS AND AUTHORS

Proud for having given my small contribution to such success.

Benedetto De Vivo (Italy, editor and author)

I do appreciate your very informative message and I do understand the value of EOLSS being published only in the electronic fashion. The data you present of current access to it is indeed impressive.

Dra. Eugenia J. Olguin (Mexico, author)

I am very proud to have my article published in this Encyclopedia and for my great satisfaction I managed to find it in the Internet, which I had been wishing to see for a long time.

Hilkka Pietilä (Finland, author)

Let me congratulate all those who have dedicated years of work and commitment to this endeavour. It is particularly comforting that access to the Encyclopedia is free of charge to poor universities in developing countries.

Judith A. Cherni (UK, author)

I looked up the web site and am very impressed with the project, and very glad to have been part of it. I also recommended it to our college library, and to the director of our environmental programs.

Laurel MacDowell, Professor of History (University of Toronto, Canada, user)

I have a free trial period and I am very satisfied. This is a very valuable source of information.

Svein Solberg (Norwegian forest research institute, user)

It has been a pleasure working on this important project — it is really impressive.

Vagn Lundsgaard Hansen (Denmark, author)

I admire you for the work you are doing. It is worthwhile and positive! So many bad things are happening in the world; so I appreciate the work that people like you are doing!

Wm. Gary Kline (USA, author)

I have now personally browsed the EOLSS website. I find it rich with the understanding required to respond knowledgeably, interdisciplinarily and across borders to the profoundly systemic world problems we face. I am dedicated to the mission. [...] It continues to be a pleasure working with you on this major task to whose fulfilment I am dedicated. [...] Your EOLSS explanation and definition of life support systems is excellent. By "life-serving", I mean what you designate by life-supporting, by another term. But your distinction between necessary conditions without which there is "collapse", and enhancing conditions which "make things better", is central. [...] EOLSS has an advantage. All who are in the EOLSS project, already agree that life systems and their support are of ultimate value. That puts the project a long way ahead of where past and contemporary Philosophy has so far managed to get in positive grounds of value agreement. In fact, it is not easy to think of any philosopher besides myself who thinks in life-

system terms. Even the great philosopher-economist Amartya Sen's central category of "capabilities" is not defined in life terms. So the problem of getting philosophers to think in life-system terms is the principal challenge in implementing the Philosophy Theme and bringing it to expert consummation.

John McMurtry (Canada, editor)

This is a wonderful resource [...] Thank you again for the privilege and honour of contributing to a worthy cause.

Alex Michalos (Canada, author)

[...] those who did agree to author a chapter, were all extremely enthusiastic. One author said to me: "This is something I plan to do at least once in my lifetime". I think such statement is a guarantee for true quality work.

Hayley Shen (USA, editor)

I congratulate Eolss for the good work and interesting articles. My institution, Universidad Complutense Madrid, has been a subscriber since 2006, I contributed with two articles and I love your "global" multicultural approach.

Asunción López-Varela Azcarate (Spain, author)

Many thanks for making this (the e-book) available to me — an excellent addition to the literature, and a tour de force on the part of Don Hardesty, to whom I send my congratulations.

Henry Cleere (UK, author)

I should like to express my sincere thanks to the editors who made the edits in the text. I really appreciate the edits [...]. With many thanks for the opportunity to interact on the quality of the paper [...]

Sepepe Deckers (Belgium, author)

7. Conclusion

Looking back nearly twelve years from now, we have come a long way with the EOLSS from its conceptual stage to an age of considerable maturity. Our efforts will continue to make the results of this global exercise remain valid and up-to-date for as long a time into the future as possible to be a valuable knowledge resource. Before concluding this, two important aspects of the EOLSS project are to be noted. First, the commercial interests of the project are just to make it self-sustained. It may be asserted that the EOLSS is a carbon-free project. The use of natural resources, involving hard copy communications, has been almost eliminated through electronic communications despite challenges due to the lack of uniformity of technological facilities throughout the world. Transmission of messages, feedback, reviews, and manuscripts in different stages of editing, etc. has been achieved at an incredible speed and efficiency. Updates and additions to the BOK are incorporated very easily and quite frequently and errors if any brought to our attention by the users and/or authors are removed quickly. All this became possible due to the operations and publication in the

electronic medium. Thus the EOLSS project has the contentment of having achieved one of its oft-cited objectives, conservation of natural resources and minimization of waste. Upon the completion of the intended translation of the Encyclopedia into five other official UN languages, in collaboration with the UNDL Foundation, this treasure of knowledge would be made available to the diverse communities of overseas sciences, in their own languages; and this will be in line with the noble objective of the Royal Academy for Overseas Sciences of Belgium.

The EOLSS on its part contributes to bridging the prevailing *digital-divide* and knowledge gap, by making this online encyclopedia available free of charge to universities in least developed countries and disadvantaged individuals worldwide.

The EOLSS is inspired by a vision that includes the following paradigm: the sciences should be at the service of humanity as a whole, and should contribute to providing everyone with a deeper understanding of nature and society, a better quality of life and a sustainable and healthy environment for present and future generations.

Mainstream education and popular media have been buttressing a mere culture of consumption through perpetuating social stereotypes, thus enslaving the minds and bodies of the youth. There has been a welter of data and information bundled together everywhere, but without a holistic perspective. Knowledge without perspective would be reduced to mere information, and such information without context would be reduced to mere data. The EOLSS has realized the need to present knowledge in perspective with multiple objectives of environmental and natural resource conservation, preservation of biological and cultural diversities, scientific and technological innovation, and institutional building for sustainable development. With this noble intent of putting knowledge in perspective, instead of the conventional alphabetical arrangement of the contents, EOLSS has a thematic organization with transdisciplinary approach. Another salient feature of the EOLSS is that it is a *carbon-free* project, with minimal use of natural resources, *i.e.* no *paper* and minimal *energy* use for management. The medium of its publication permits frequent updates and augmentation very easy making the EOLSS a living Encyclopedia.

ACKNOWLEDGEMENTS

It is impossible to think of a task such as the development of the EOLSS without the active support and cooperation of a huge team of scholars and intellectuals. At the same time it is impossible to thank every individual by name. The EOLSS project has the unique privilege of support, advice, and guidance of its International Editorial Council (IEC), a body of prominent scholars from all over the world in a great diversity of fields. The UNESCO-EOLSS Joint Committee has set the necessary framework of operations in line with the advances in technology in the management of the EOLSS Project. The IEC and the UNESCO-EOLSS Joint Committee are listed at www.eolss.net.

The success of the EOLSS project is undoubtedly due to the dedicated effort and contributions of prominent scholars from over a hundred nations — hundreds acting as subject editors and thousands as authors giving the EOLSS its authenticity, quality, breadth, depth, and diversity of coverage. The author takes this opportunity to express his personal gratitude to many able and noble individuals for their inspiration, advice, and active participation in the day-to-day operations of the EOLSS project.

Federico Mayor and K. Matsuura, the former and present Director Generals of UNESCO, have been immensely supportive of this enormous endeavour. Adnan Badran, former Deputy Director General of the UNESCO was instrumental in formalizing the collaboration with the UNESCO. As a prominent educationist, his constant advice and support from the inception of the EOLSS project have given us strength, confidence, and direction. M. K. Tolba has been an inspiring friend and advisor who took up the responsibility to edit 'Our Fragile World' (Volumes I and II), a forerunner to the EOLSS.

The author thanks Andras Szollosi-Nagy, Director and Deputy ADG for his advice and Mustafa El Tayeb, Director Division for Science Policy and Sustainable Development (SC/PSD), for his constant support. El Tayeb took interest to present the EOLSS in his missions abroad and has been very encouraging throughout despite his busy life. The author wishes to gratefully mention the following persons for their personal advice and support in this unprecedented global effort: N. H. Afgan (Portugal), V. Agoshkov (Russia), Adil Al Radif (Canada), Avi Bajpai and his sons Amit and Rakesh (UK), E. J. Barron (USA), S. Bruk (Consultant UNESCO), M.C. Donoso (UNESCO Montevideo Office), Yehia El-Sayed (USA), C. Frangopoulos (Greece), E. Gyftopoulos (USA), I. Herrera (Mexico), Mo, Jamshidi (USA), T., Kao David (USA), John, Last (Canada), Ervin, Laszlo (Club of Rome), Bao, Liu (China), (H. Lundberg (Sweden), T. Nejat Veziroglu (USA), T. Ohta (Japan), R. G. Prinn, (USA), Irina and Yuri Pykh (Russia), Jonathan Roughgarden (USA), A. Sasson (Former Assistant Director General, UNESCO), E. Schuibba (Italy), M. A. Somerville (Canada), A. Sydow (Germany), Younes Talal (Executive Director, IUBS), H. Unbehauen (Germany), A. Valero (Spain), G. Wall (Sweden), Wang Xingyu (China), Yi Lin (IIGS, USA).

The author takes this opportunity to gratefully acknowledge his close association with some individuals who gave him great strength. Andy P. Sage, Chairman of the Configuration Board, became a close friend and advisor as he has been guiding us since the inception of the EOLSS Project. Guri Marchuk became a close advisor and mobilized the Russian Academy of Sciences in the EOLSS development activity. Hame Watt has advised us in many ways and has been available whenever we needed him. Jack Dempsey and P. N. P. Singh of EOLSS Publishers (Oxford, UK), have been very patient, cooperative and helpful at all stages of publication of the EOLSS and its derivatives. Allan Johns of the University of Bath has been a friend for a long time and advised on many aspects of the EOLSS. Richard Hornby has been with us for many years.

On the long road we lost some great friends and advisors — Lekh Batra and Gordon Chesters. They will be remembered for their valuable help and advice. Some editors and authors passed away without seeing the EOLSS mature to its present stage.

There are some who dedicated all their time over the last decade spending many hours every day with the author for the EOLSS project. At the UNESCO-EOLSS Joint Committee Secretariat Vladislav Kotchetkov and Hong Huynh have been coordinating the global communications with remarkable efficiency. Bushara Makkawi has been the author's friend and colleague even before the EOLSS project was initiated offering his advice on

the development of the EOLSS. J. Rajeswar, Sajeev Vasudevan and S. M. Anas have contributed to many of the discussions regarding the EOLSS. A. Woldai's zeal, energy and hard work have brought new technologies to serve the EOLSS project. Ganti Prasada Rao has been a source of ideas, strength and confidence throughout.

REFERENCES

- ATCHIA, M. 2004. Environmental Education (EE). — *In*: NATH, B. (Ed.), Environmental Education and Awareness, Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved May 10, 2008].
- Evolution of Knowledge in Human History. (<http://www.unesco.org/science/wcs/eng/framework.htm>).
- FARRELL, R. V. (Ed.) & GEORGE, P. 2003. Education for Sustainability. — *In*: Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved April 6, 2008].
- LEE, J. C. K. & CHUNG, Y. P. 2004. Knowledge Foundation: Education for Sustainable Development. — *In*: TARASOVA, N. P. (Ed.), Quality of Human Resources: Education, Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved May 6, 2008].
- MARKLUND, K. The Role of Technology in the Production of the Swedish National Encyclopedia. — Höganäs (Sweden), Bra Böcker Publishing Group.
- MCGETTRICK, B. J. 2004. Foundations of Educational Systems. — *In*: TARASOVA, N. P. (Ed.), Quality of Human Resources: Education, Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved May 8, 2008].
- NATH, B. (Ed.) 2007. Environmental Education and Awareness. — *In*: Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved May 12, 2008].
- RAO, G. P. 2007. Integration of Knowledge Systems: The Needs, Challenges and Opportunities. — *Systems Science*, **33** (3).
- SACK, R. 2004. Policy Planning and Management in Educational Systems: Essential Elements in the Achievement of Education for Sustainability. — *In*: FARRELL, R. V. (Ed.), Education for Sustainability, Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved April 8, 2008].
- SAGE, A. P. (Ed.) 2004 [2006]. Systems Engineering and Management for Sustainable development. — *In*: Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved April 2, 2008].
- SAGE, A. P. 2001. Introduction to the Encyclopedia of Life Support Systems. Our Fragile World: Challenges and Opportunities for Sustainable Development. — Oxford (UK), Eolss Publishers Co. Ltd, 18 pp.
- SIRANGELDIN, I. (Ed.) 2003. Diversity and Historical Processes in Human Development. — *In*: Sustainable Human Development, Encyclopedia of Life Support Systems

- (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved May 20, 2008].
- SIRANGELDIN, I. (Ed.) 2003. Sustainable Human Development in the Twenty-First Century: An Evolutionary Perspective. — *In*: Human Resources Policy and Management, Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved May 18, 2008].
- SOMERVILLE, M. A. & RAPPORT, D. J. (Eds.) 2000. Transdisciplinarity: Recreating Integrated Knowledge. — Oxford (UK), Eolss Publishers, 272 pp.
- STERLING, S. 2004. The Ecological and Environmental Dimensions of the Holistic Curriculum. — *In*: FARRELL, R. V. (Ed.), Education for Sustainability, Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO. Oxford (UK), Eolss Publishers (<http://www.eolss.net>) [Retrieved April 20, 2008].
- VAN DOREN. C. 1991. History of Knowledge. — New York, Ballantine Books, 422 pp.

Sharing Knowledge across Language Barriers: A Challenge for EOLSS

by

Tarcisio G. DELIA SENTA*

1. Introduction

The focus of my presentation is on two major topics, having EOLSS as a broad and live background:

- The first concerns the “language divide” and how modern information and communication technologies (ICTs) can provide means to bridge the language barriers. The UNL technology is one promising example among these technologies.
- The second topic focuses on how to empower knowledge sharing across cultural diversities with the UNL system for searching, discovering and exploring the world of knowledge.

Let us start by spelling out the assumptions of this presentation in order to ensure a full view of the challenging issues we are confronted with.

- The basic assumption is that the body of knowledge contained in the *Encyclopaedia of Life Support Systems* — in short EOLSS [1]** — is vital for all nations, and very timely for meeting the world’s crisis arising from current trends in climate change. Indeed, governments and citizens worldwide are becoming increasingly worried about its causes, and searching for strategies for fostering cooperation in circumventing them. EOLSS offers a comprehensive background on this crisis, and an integrated framework for addressing the complex issues related to environmentally sustainable development. It is assumed that greater awareness on the causes of the crisis will increase the sense of responsibility of peoples and governments. EOLSS, therefore, can be taken as an important source for educating their awareness, promoting their political will, and fostering behavioural changes.
- The other basic assumption is that ICTs can provide us with powerful tools to reverse current disastrous-leading trends. In order to achieve such formidable

* President UNDL Foundation, 48 route de Chancy, CH-1213 Petit-Lancy, Geneva (Switzerland).

** Numbers in brackets [] refer to the notes and references, p. 405.

and long-term task, compatible means are required. Means that would enable to promote knowledge, educate awareness, foster political will, and induce behavioural change. In this perspective, the UNL technology is introduced as a promising platform for empowering knowledge and for facilitating communication among peoples, thus inducing cooperation among them in fighting collective threats.

This is the reason why I prefer to present the UNL “as mean to meet far reaching ends” rather than a shining and revolutionary technology for translation. In fact, the UNL does translation better than usual automatic systems; but its greater merit is in enabling multilingual communication and in becoming a powerful platform for sharing and distributing knowledge, and therefore, providing compatible means for implementing the UN millennium goals, the knowledge economy and the information society.

2. The UNL Technology: Empowering Multilingual Interactive Communication

2.1. WHAT IS UNL?

One way of introducing the UNL is to present it as the “language of computers”, which is different in nature from the concept of “computer languages” like FORTRAN, COBOL, PASCAL and many others. “UNL Language” here is taken in the same meaning as when we refer to the “human languages”. In fact, UNL has lexical, syntactical and semantic components as any natural language. It can therefore represent all information, data and knowledge humans produce in their different languages [2].

The basic difference between UNL and human languages is that UNL is written in machine readable format; it represents information and data in “digital alphabet” that machines can “understand” and process. Therefore, once machines master the UNL language, they can process information and knowledge written in human readable alphabets.

The UNL is meant to become the common language of computers all over the world. This prepares a quantum jump in the human-machine interaction, and human-to-human communication as well. Moreover, it will empower peoples from different languages to communicate with each other in their own mother tongue. In this way, the multidiverse “knowledge systems” that today exist imbedded in many native languages will become available to all peoples.

2.2. HOW DOES THE UNL WORK?

The UNL is the core of the UNL System, which comprises three sets of components:

- Linguistic components: dictionaries, grammatical rules and knowledge bases forming the link between natural languages and the UNL;
- Software components: two software programs for moving content from natural languages to UNL (the *EnConverter*) and vice versa (the *DeConverter*);
- System interfacing components: protocols and tools enabling the flow of UNL documents throughout the web.

When all these components are put together in innovative computer architecture they become a powerful mechanism for translation and knowledge engineering. The *UNL Editor* makes it easy to write in UNL. This writing process is interactive between the author and the computer. The *UNL Editor* encodes the content and displays the results back to the author showing the way in which the UNL system has understood the content of the original document. The author thus has the possibility of checking its precision. The same procedures apply for printed or published documents. The quality of the UNL version is checked by the user of the system, as he or she can compare the original text with the UNL representation. By using this interactive method, authors or users are able to produce a document with the desired degree of precision.

When the encoding process is completed, the author or user generates the UNL version of the document using the *UNL EnConverter*. The UNL documents are then available to any users equipped with the *UNL DeConverter*, and can be translated into their own language.

UNL is an intelligent translator as it interprets the meaning of words and expressions, whilst being aware of the general context. That is why it produces better results than word-for-word translation. The results of translations that have passed through the UNL system are similar to the results of translations produced by human professionals. UNL differs from the other systems mainly for the following aspects:

- It “interprets” the meaning of words and sentences like a human being thanks to the semantic background built in the system.
- It creates a UNL version of the text, which can be equated to a photographic “negative”, which can then deconvert extremely quickly into a multitude of target languages. This sets it apart from the other systems, where each text has to be translated from scratch for each target language.
- It makes it possible to explore knowledge sources from multilingual documents.

This process can be better illustrated with an example using EOLSS as demonstration case.

2.2.1. Translating EOLSS into Multiple Languages

Dr Al Gobaisi presented EOLSS in its new and unique Encyclopaedia features. It is the “fruit of an unprecedented global effort over the last ten years, with contributions from thousands of scholars from over 100 countries, and edited by

nearly 300 subject experts". The result is "a self-contained virtual library equivalent to 200 volumes, or about 123,000 printed pages that are continuously augmented and updated".

It is unique also in its goal: "to provide a firm knowledge base for future activities to prolong the lifetime of the human race in a hospitable environment". To this end, the EOLSS brings the human and natural sciences, engineering and public policies, philosophy and technology, etc. to focus on the interactions between societal and natural systems. Therefore, EOLSS offers to university students and educators, NGOs, policy analysts and managers, decision-makers in the public and private sectors, development officials and media leaders the knowledge resources they need.

However, all these potentials are jeopardized by language barriers: EOLSS is only in English by now. This shortcoming remains a concern for UNESCO mission, and for the EOLSS authors and donors. Their challenge is how to make EOLSS available in as many nations as possible, while expanding and updating its content in all their languages. It is a daunting task that requires years of work and large amount of resources, human and financial, if done in the conventional ways of translation.

Our proposal is to use the UNL system for translating the EOLSS into multiple languages of the highest quality. The goal is to make the entire EOLSS available in as many languages as desired: to start with the six official languages of UNESCO. With the UNL system this is achievable in a relatively short period of time, and at lower costs than with the existing translation processes.

2.2.2. *The UNL Translation Process*

Usual translations are made from one language into another, directly. Translation with the UNL system is a two-step process.

- The first consists of enconverting the content of the EOLSS from English into UNL (*UNLization* process). It is carried out with the use of the UNL Enconverter engine (EnCo). The UNL English Dictionary and Enconversion Rules, in association with the UW Dictionary and the UNL KB, are the enabling components in this process. The advantage of *UNLizing* a document over other ways of translation is that once EOLSS text is *UNLized*, the UNL version can be used as a kind of "template" for translating it into a limitless number of languages. It can be used also for facilitating future modification in the original text in all translated versions simultaneously. In the early stages of the UNLization, human intervention is often needed in order to ensure 100 % correct UNL version. As the performance English EnCo and the technical dictionaries improve, human intervention will be gradually reduced, and productivity increased.
- The second step consists of deconverting EOLSS content from UNL into many natural languages. This Deconversion from the EOLSS UNL version into natural languages is basically a task to be carried out by each language, in

each country. The process is carried out with the use of the Deconverter engine (DeCo) of each language located in the UNL Server of the respective natural language. Each UNL-Language Server contains a dictionary of the local language and generation (deconversion) rules, in association with the UNL KB, which are the enabling components in this process. The accuracy and the need of postediting depend on the performance of the DeCo and quality of the UNL server in each UNL language centre. As their performance improves, accuracy is highly enhanced and human intervention is drastically minimized.

3. Empowering Access to EOLSS Knowledge System

The other fascinating feature of the UNL is the power of revolutionizing knowledge treatment in terms of searching, storing, retrieving, disseminating and sharing, or other forms of knowledge systems. UNL deals with concepts as meta-data and concepts are stored in a “language independent” format. This enables to define conceptual constructs, and to build “semantic backgrounds”, knowledge networks, ontologies, encyclopaedias, etc., in the “language of computers”.

We are developing some special tools for creating this type of knowledge engineering as part of our EOLSS+UNL Project. The tools are still “under development” at our UNDL Foundation. They are not completed, not user-friendly yet; but some of the features can already be displayed. One of these tools is the *UNL EOLSS INTERFACE — UEI* [3], which is taking the EOLSS body of knowledge as a first prototype.

To view how it works, you are invited to enter the website <http://www.ronaldomartins.pro.br/eolss/> and go through the many features of the UEI. You will discover its design and menus (explanations are provided), the development process, what it can show at this moment, etc. In particular, you are invited to try it, and play with it.

The *UEI* comprises two windows: the left one is the navigation window; the right is the exhibition one. There are three different types of modes of navigation: EXPLORE, DISCOVER and SEARCH.

—In the EXPLORE VIEW we show the table of contents in a tree structure, which can be both expandable and collapsible. This is the best navigation strategy for those who already know the Encyclopaedia internal structure and look for fast and direct access to the EOLSS entries. Entries, when activated, lead directly to the Encyclopaedia articles, which can be viewed in the right window.

—In the DISCOVER VIEW we present a hyperbolic tree structure, a navigable graph interlinking titles, keywords, authors, institutions, cities and countries. The nodes are shown on demand in different colours in the left window. The default view displays only titles, but the view can be customized by the option “Show Nodes” in the menu bar. Nodes can be shown either in UNL or in any

available language (to be set by the option “Label Nodes”). Every node is a hyperlink, either to other nodes or to an HTML document, to be displayed in the right window.

- The SEARCH VIEW performs the search in the EOLSS search engine and displays the results as a new navigable hyperbolic tree, where search can be refined as nodes are again hyperlinks to the articles of EOLSS.

The *UNL EOLSS INTERFACE* — UEI — reorganizes EOLSS information and data as a huge network interlinking, for the time being, six different types of nodes: titles, authors, keywords, institutions, cities, and countries.

The nodes are shown on demand in different colours at the top of the left window. The default view displays only titles, but the view can be customized by the option “Show Nodes” in the menu bar.

Nodes can be shown either in UNL or in any available language (to be set by the option “Label Nodes”).

Every node is a hyperlink, either to other nodes or to an HTML document, to be displayed in the right window.

Though incomplete, the *UEI* displays interesting features. The most salient:

- It enables search, navigation, exploration, exhibition, keeping the semantic networks among the concepts. This allows, for instance, to explore the world of knowledge described in EOLSS and discover the interdisciplinary web that interlinks not only the themes, chapters, keywords, but most importantly, the semantic constructs on which rest the entire Encyclopaedia.
- It performs all functions in UNL, *i.e.*, in language independent format (at the moment numeric codes are provisionally used) and also in natural languages. This facilitates precision navigating through the conceptual networks. It facilitates also displaying results in the user’s mother tongue.
- In the future it will include facilities for integrating audiovisual media functionalities.

4. The Way Ahead

In concluding three final remarks can be made:

- The first is that EOLSS+UNL project is just at the beginning of long-term endeavour, and the way ahead is laborious. But, despite the short experience gained in developing the UNL, and in applying it to translating EOLSS and to exploring its world of knowledge, it provides us with some useful discoveries: EOLSS is a highly specialized knowledge, which must reach different cultural and scientific backgrounds. However, in many languages key concepts and specific terminology are missing. This implies an additional effort for translating EOLSS in these languages.

- UNL has unlimited potential for translating massive documents into a number of languages. In addition, its potential for empowering search, discover and explore functions indicates that it can provide the Encyclopaedia users with a powerful tool for taking full advantage of the wealth of knowledge it can unfold.
- I would like to take this opportunity to invite all of you to join us in this movement of developing powerful means for addressing the most pressing problems of our times, always having in mind our common mission of promoting environmentally sustainable development.

NOTES AND REFERENCES

- [1] <http://www.eolss.net>
- [2] H. Uchida, M. Zhu & T. Delia Senta, *The Universal Networking Language*. UNDL foundation (2005).
- [3] R. Martins, <http://www.ronaldomartins.pro.br/eolss/>

Concluding Remarks

by

Mustafa EL TAYEB*

Mr Chairman,
Mrs Swinne, Permanent Secretary,
Distinguished Members of the Academy,
Dear Colleagues,
Ladies and Gentlemen,

I am indeed honoured to be given this opportunity to say a few words about EOLSS. My pleasure is compound as I stand here as the Secretary of the UNESCO-EOLSS Joint Committee, Secretary of its Scientific Committee as well as a corresponding member of the Academy.

It is in my capacity as member of the Academy that I had the pleasure of introducing EOLSS to our Section of Technical Sciences. It was following that presentation that the idea was born to devote a special session to make EOLSS known in a more comprehensive way.

In the meantime, our editor-in-chief, Dr Al Gobaisi, was elected as a new member of the Academy. I wish to take this opportunity to congratulate him on the well-deserved honour.

My direct involvement in the daily work of EOLSS started in 1999 in Budapest during the World Conference on Science. I was honoured then to be appointed as a Secretary of the UNESCO-EOLSS Joint Committee that oversees the development of the Encyclopedia. Since then, I have never stopped thinking of how to get this wealth of knowledge to those who need most. So, I am happy to say that EOLSS is now freely accessible to all institutions and universities in least developed countries and many other developing countries.

Today we had an extensive presentation of the Encyclopedia by its editor-in-chief. We also followed an exciting development that may make this body of knowledge accessible to a broader audience in many languages. The Universal Networking Digital Language initiative, once achieved, may transform the way of access to scientific and other forms of knowledge in the coming decades. For

* Member of the Academy; Director Division for Science Policy and Sustainable Development, UNESCO, 1 rue Miollis, F-75732 Paris, Cedex 15 (France).

EOLSS, this will be an extraordinary tool to reach the objectives of its founder, *i.e.* to make access to knowledge easier for sustainable development.

Dr Szollosi-Nagy is in the habit of saying that this Encyclopedia is the best kept secret. It is indeed a secret kept too long and time has come to make it more known and used. Today's meeting is a step in the right direction.

EOLSS is about scientific knowledge and as knowledge grows, EOLSS needs also to adapt and grow to remain a viable source of knowledge. The past three years have shown that this was the case. New themes were added and more is to come. In this respect, I wish to underline the message I conveyed to the members of our Academy a few months ago and this message is: EOLSS needs to be regularly updated; the sustainability of this process can be greatly facilitated through an increased number of subscriptions from reputable universities here in Europe and in North America. The interaction with such institutions will also improve its contents and increase its relevance.

I am indeed proud to have been associated with EOLSS. Some of you have already been associated with it and some have contributed articles. I am convinced that in the years to come, other members of the Academy may contribute articles in their fields of competence. So, this meeting may turn out to be just a beginning.

Closing Speech

by

Robert LEENAERTS*

Following the planning of our meeting, it is now time to draw some conclusions, but I would rather say comments, as I am sure you already have a clear understanding of the EOLSS concept.

First of all, I would like to underline that sustainable development still includes a lot of questions, and beyond that, a number of unresolved issues. This is due to its dependency on many complex phenomena and facts, among which three seem to be of particular importance:

- The first one relates to globalization, which must not only be economic and commercial, but also ethical, legal and political;
- The second one refers to the difficult acquisition by everyone, and the equally difficult dissemination to everyone, of all kinds of knowledge;
- The third one refers to communication between peoples and nations, as it involves different languages and cultures.

The interest of our meeting is to be found, I believe, in the fact that EOLSS brings original and relevant answers to our questions. Indeed, EOLSS is in line with an improvement of globalization, because it combines scientific and human sciences at the same level. Until recently, this was a challenge. It is now a reality.

Moreover, this virtual library has become a worldwide one, and it can be reached by everybody from everywhere. What yesterday was an unreachable goal, has now become a marvellous means serving humanity as a whole. For our Academy in particular, it is also a reason to reaffirm and develop its work and activities, since EOLSS is factually a new and wide bridge between our nations and least developed countries.

This afternoon, we have realized how EOLSS addresses all segments of society, from government to industry and higher education. Why? Purely and simply to provide managers, leaders and decision-makers with a deeper understanding of nature and society, of quality of life and of suitable environment. In other words, to promote a more sustainable development into a better globalization.

* Member of the Academy.

From this standpoint, culture and communication remain obstacles to take into account while disseminating knowledge. Learning can only contribute to development when integrated into a cultural context. The EOLSS Editorial Council has been attentive to the matter, and for this purpose, online content has been translated into several languages. As far as I know, this is the first time such an effort has been made on such a large scale. Our deepest appreciation goes to the UNESCO-EOLSS Joint Committee.

Our Academy, with its three sections — human sciences, natural and medical sciences, and technical sciences —, seems to be very close to the EOLSS concept, and vice versa. Therefore, this meeting must be seen, especially by other scientific academies, as an example of wilful cooperation between international and national organizations to promote a better globalization in a near future.

With this in mind, Ladies and Gentlemen, I hope that as you discuss these matters further, confidence will be gained that we have the appropriate tools to move in this direction.

PROCES-VERBAUX — NOTULEN

Classe des Sciences morales et politiques

Séance du 21 avril 2009

(Extrait du procès-verbal)

La séance est ouverte à 14 h 30 par M. E. Haerinck, Directeur, assisté de Mme B. Vanhoudt, Vice-Directrice, et de Mme D. Swinne, Secrétaire perpétuelle.

Sont en outre présents: MM. F. de Hen, J. Jacobs, P. Petit, C. Sturtewagen et Mme Y. Verhasselt, membres titulaires; MM. D. Huyge et C. Willemen, membres associés.

Invités : Mmes Lemaître, S. Thys, MM. B. Vanthuyne et H. Willems.

Ont fait part de leur regret de ne pouvoir assister à la séance: M. H. Baetens Beardsmore, Mme E. Bruyninx, M. P. Collard, Mme D. de Lame, MM. D. Demolin, G. de Villers, Mme M. Engelborghs-Bertels, MM. M. Graulich, H. Legros, C. Ntampaka, F. Reyntjens, G. Vanthemsche, J.-L. Vellut et U. Vermeulen.

Kekeewin ou Kekeenowin.

Les peintures rupestres de l'est du Bouclier canadien

M. Serge Lemaître présente une communication intitulée comme ci-dessus.

MM. Harco Willems, Dirk Huyge, John Jacobs, Pierre Petit et Ernie Haerinck prennent part à la discussion.

La Classe accepte d'envisager la publication d'un texte et désigne deux rapporteurs.

«Runderen in het Oude Egypte. Een bijzondere vondst uit Dayr el-Barsh »

Mme Veerle Linseele présente une communication intitulée comme ci-dessus.

MM. Ernie Haerinck, Christian Sturtewagen, Dirk Huyge et Harco Willems prennent part à la discussion.

La Classe n'envisage pas de publier, le texte de cette communication ayant déjà fait l'objet d'une publication.

«Negritude: ontstaan, ontwikkeling, verdwijning?»

Mme Kathleen Gyssels a présenté cette communication lors de la séance du 18 novembre 2008.

Après avoir entendu les rapports, la Classe décide de ne pas publier ce texte.

La séance est levée à 16 h 30.
Elle est suivie d'un Comité secret.

Klasse voor Morele en Politieke Wetenschappen

Zitting van 21 april 2009

(Uittreksel van de notulen)

De zitting wordt om 14 u. 30 geopend door de Heer E. Haerinck, Directeur, bijgestaan door Mevr. B. Vanhoudt, Vice-Directeur, en Mevr. D. Swinne, Vast Secretaris.

Zijn bovendien aanwezig: de HH. F. de Hen, J. Jacobs, P. Petit, C. Sturtewagen en Mevr. Y. Verhasselt, werkende leden; de HH. D. Huyge en C. Willemen, geassocieerde leden.

Uitgenodigd: Mevr. Lemaître, S. Thys, de HH. B. Vanthuyne en H. Willems.

Betwisten hun spijt niet aan de zitting te kunnen deelnemen: de Heer H. Baetens Beardsmore, Mevr. E. Bruyninx, de Heer P. Collard, Mevr. D. de Lame, de HH. D. Demolin, G. de Villers, Mevr. M. Engelborghs-Bertels, de HH. M. Graulich, H. Legros, C. Ntampaka, F. Reyntjens, G. Vanthemsche, J.-L. Vellut en U. Vermeulen.

„Kekeewin ou Kekeenowin.

Les peintures rupestres de l'est du Bouclier canadien"

De Heer Serge Lemaître stelt een mededeling voor getiteld als hierboven.

De HH. Harco Willems, Dirk Huyge, John Jacobs, Pierre Petit en Ernie Haerinck nemen aan de bespreking deel.

De Klasse wil de publicatie van een tekst overwegen en duidt twee verslaggevers aan.

Runderen in het Oude Egypte. Een bijzondere vondst uit Dayr el-Barsh

Mevr. Veerle Linseele stelt een mededeling voor getiteld als hierboven.

De HH. Ernie Haerinck, Christian Sturtewagen, Dirk Huyge en Harco Willems nemen aan de bespreking deel.

De Klasse voorziet geen publicatie omdat de tekst reeds verschenen is.

Negritude: ontstaan, ontwikkeling, verdwijning?

Mevr. Kathleen Gyssels heeft deze mededeling tijdens de zitting van 18 november 2008 voorgesteld.

Na de verslagen gehoord te hebben, beslist de Klasse deze tekst niet te publiceren.

De zitting wordt om 16 u. 30 geheven.
Zij wordt door een Besloten Vergadering gevolgd.

Classe des Sciences morales et politiques

Séance du 19 mai 2009

(Extrait du procès-verbal)

La séance est ouverte à 14 h 30 par M. E. Haerincq, Directeur, assisté de Mme B. Vanhoudt, Vice-Directrice, et de Mme D. Swinne, Secrétaire perpétuelle.

Sont en outre présents: Mme P. Bouvier, M. F. de Hen, Mme D. de Lame, MM. J. Denis, J. Everaert, J. Jacobs, J. Klener, F. Neyt, C. Sturtewagen, membres titulaires; MM. M. Meeuwis, S. Plasschaert, P. Raymaekers et F. Van Noten, membres associés; M. H. Vinck, membre correspondant; MM. H. Nicolaï et I. Beghin, membres de la Classe des Sciences naturelles et médicales.

Ont fait part de leur regret de ne pouvoir assister à la séance: MM. R. Anciaux, H. Baetens Beardsmore, Mme E. Bruyninx, MM. P. Collard, F. De Boeck, D. Demolin, Mme M. Engelborghs-Bertels, MM. M. Graulich, D. Huyge, C. Ntampaka, P. Petit, F. Reyntjens, G. Vanthemsche, Mme Y. Verhasselt, MM. K. Vlassenroot et C. Willemen.

«De rol van de aardrijkskunde in de koloniale wetenschappen»

M. Jan Vandersmissen présente une communication intitulée comme ci-dessus.

MM. Ernie Haerincq, John Everaert, Henri Nicolaï et Mme Bettie Vanhoudt prennent part à la discussion.

La Classe accepte d'envisager la publication d'un texte et désigne deux rapporteurs.

Des Kwele aux Lega, les masques concaves en forme de cœur (du Gabon à la RD Congo)

M. François Neyt présente une communication intitulée comme ci-dessus.

M. John Everaert et Mme Bettie Vanhoudt prennent part à la discussion.

La Classe décide de publier ce texte dans le *Bulletin des Séances*.

Concours 2009

Un travail a été introduit régulièrement en réponse à la première question du concours 2009, intitulée «On demande une étude sur les contacts internationaux

Klasse voor Morele en Politieke Wetenschappen

Zitting van 19 mei 2009

(Uittreksel van de notulen)

De zitting wordt om 14 u. 30 geopend door de heer E. Haerinck, Directeur, bijgestaan door Mevr. B. Vanhoudt, Vice-Directeur, en Mevr. D. Swinne, Vast Secretaris.

Zijn bovendien aanwezig: Mevr. P. Bouvier, de Heer F. de Hen, Mevr. D. de Lame, de HH. J. Denis, J. Everaert, J. Jacobs, J. Klener, F. Neyt en C. Sturtewagen, werkende leden; de HH. M. Meeuwis, S. Plasschaert, P. Raymaekers en F. Van Noten, geassocieerde leden; de Heer H. Vinck, corresponderend lid; de HH. H. Nicolaï en I. Beghin, leden van de Klasse voor Natuur- en Geneeskundige Wetenschappen.

Betwuiden hun spijt niet aan de zitting te kunnen deelnemen: de HH. R. Anciaux, H. Baetens Beardsmore, Mevr. E. Bruyninx, de HH. P. Collard, F. De Boeck, D. Demolin, Mevr. M. Engelborghs-Bertels, de HH. M. Graulich, D. Huyge, C. Ntampaka, P. Petit, F. Reyntjens, G. Vanthemsche, Mevr. Y. Verhaselt, de HH. K. Vlassenroot en C. Willemen.

De rol van de aardrijkskunde in de koloniale wetenschappen

De Heer Jan Vandersmissen stelt een mededeling voor getiteld als hierboven.

De HH. Ernie Haerinck, John Everaert, Henri Nicolaï en Mevr. Bettie Vanhoudt nemen aan de bespreking deel.

De Klasse wil de publicatie van een tekst overwegen en duidt twee verslaggevers aan.

„Des Kwele aux Lega, les masques concaves en forme de cœur (du Gabon à la RD Congo)”

De Heer François Neyt stelt een mededeling voor getiteld als hierboven.

De Heer John Everaert en Mevr. Bettie Vanhoudt nemen aan de bespreking deel.

De Klasse beslist deze tekst in de *Mededelingen der Zittingen* te publiceren.

Wedstrijd 2009

Eén werk werd regelmatig ingediend in antwoord op de eerste vraag van de wedstrijd 2009 „Men vraagt een studie over de internationale contacten

(3^e siècle av. J.-C. – 3^e siècle de notre ère) dans le golfe Persique méridional à la lumière de l'étude de la poterie»:

RUTTEN, Katrien [2009]. Het aardewerk van ed-Dur (Umm al-Qaiwain, V.A.E.) uit de late 1ste eeuw v. tot de vroege 2de eeuw n. Chr. Technologische, typologische en vergelijkende studie met een analyse van de ruimtelijke verspreiding en handel in en voorbij de Perzische Golf tijdens de Laat Pre-islamitische periode (3de eeuw v. – 6de eeuw n. Chr.). — [Verhandeling Univ. Gent], 497 pp. + cd-rom (catalogoog, kaarten en platen).

Après avoir entendu les rapports de MM. Ernie Haerinck, Julien Klener et Urbain Vermeulen, la Classe décide d'attribuer le prix d'une valeur de 1 000 euros à Mme Katrien Rutten, Université de Gand. Elle portera le titre de «Lauréate de l'Académie Royale des Sciences d'Outre-Mer».

Aucun travail n'a été introduit régulièrement en réponse à la deuxième question du concours 2009, intitulée «On demande une étude relative aux théories de l'Etat dans le monde arabe contemporain».

Prix de Géographie tropicale Yola Verhasselt

Conformément à l'article 9 du règlement, la Commission de Sélection du Prix a communiqué son rapport à la Classe des Sciences morales et politiques.

Trois candidatures ont été introduites:

D'HAEN, Sarah (UCL). — Household Vulnerability to Climate Variability in the West African Sahel (Burkina Faso)

FRANKL, Amaury (UGent). — De evolutie van geulerosie in het Noord-Ethiopische hoogland: netwerken, snelheden en drijvende factoren sinds de late 19de eeuw.

LE POLAIN DE WAROUX, Yann (UCL). — Gestion traditionnelle de l'espace et production des biens et services écologiques dans l'arganeraie (sud-ouest du Maroc)

Suivant l'avis de la Commission, la Classe décide d'attribuer le prix à M. Amaury Frankl. Il portera le titre de «Lauréat du Prix de Géographie tropicale Yola Verhasselt».

La séance est levée à 16 h 45.

(3de eeuw v. Chr. – 3de eeuw na Chr.) in de zuidelijke Perzische Golf aan de hand van de studie van het aardewerk”:

RUTTEN, Katrien [2009]. Het aardewerk van ed-Dur (Umm al-Qaiwain, V.A.E.) uit de late 1ste eeuw v. tot de vroege 2de eeuw n. Chr. Technologische, typologische en vergelijkende studie met een analyse van de ruimtelijke verspreiding en handel in en voorbij de Perzische Golf tijdens de Laat Pre-islamitische periode (3de eeuw v. - 6de eeuw n. Chr.). — [Verhandeling Univ. Gent], 497 blz. + cd-rom (catalogoog, kaarten en platen).

Na de verslagen van de HH. Ernie Haerinck, Julien Klener en Urbain Vermeulen gehoord te hebben, beslist de Klasse de prijs ter waarde van 1 000 euro toe te kennen aan Mevr. Katrien Rutten, Universiteit Gent. Zij zal de titel dragen van „Laureate van de Koninklijke Academie voor Overzeese Wetenschappen”.

Geen enkel werk werd regelmatig ingediend in antwoord op de tweede vraag van de wedstrijd 2009 „Men vraagt een studie met betrekking tot de staatsleer in de eigentijdse Arabische wereld.”

Prijs voor Tropische Geografie Yola Verhasselt

Conform artikel 9 van het reglement, heeft de Selectiecommissie van de Prijs haar verslag aan de Klasse voor Morele en Politieke Wetenschappen meegedeeld.

Drie kandidaturen werden ingediend:

D’HAEN, Sarah (UCL). — Household Vulnerability to Climate Variability in the West African Sahel (Burkina Faso)

FRANKL, Amaury (UGent). — De evolutie van geulerosie in het Noord-Ethiopische hoogland: netwerken, snelheden en drijvende factoren sinds de late 19de eeuw.

LE POLAIN DE WAROUX, Yann (UCL). — Gestion traditionnelle de l’espace et production des biens et services écologiques dans l’arganeraie (sud-ouest du Maroc)

Volgens het oordeel van de Commissie beslist de Klasse de prijs toe te kennen aan de Heer Amaury Frankl. Hij zal de titel dragen van „Laureaat van de Prijs voor Tropische Geografie Yola Verhasselt”.

De zitting wordt om 16 u. 45 geheven.

Classe des Sciences naturelles et médicales

Séance du 28 avril 2009

(Extrait du procès-verbal)

La séance est ouverte à 14 h 30 par M. J. Rammeloo, Directeur, assisté de M. J.-P. Descy, Vice-directeur, et de Mme D. Swinne, Secrétaire perpétuelle.

Sont en outre présents: MM. J. Alexandre, I. Beghin, J. Bouharmont, E. Coppejans, P. Gigase, P. Goyens, H. Nicolai, Mme R. Orban, MM. A. Ozer, E. Robbrecht, G. Stoops, J.-J. Symoens, E. Van Ranst et M. Wéry, membres titulaires; MM. D. Le Ray, E. Roche et Mme M. Wilmet, membres associés.

Ont fait part de leur regret de ne pouvoir assister à la séance: MM. J. Belot, M. Coosemans, V. De Brouwere, M. De Dapper, L. D'Haese, S. Geerts, P. Hennart, J.-M. Jadin, J.-P. Malingreau, H. Maraité, L. Tack, P. Van der Veken, Mmes Y. Verhasselt et M. Vincx.

«Microbiële biogeografie en biodiversiteit – een global change perspectief»

M. Wim Vyverman présente une communication intitulée comme ci-dessus.

MM. Eric Van Ranst, Elmar Robbrecht, Jean-Jacques Symoens, Eric Coppejans et Jan Rammeloo prennent part à la discussion.

La Classe accepte d'envisager la publication d'un texte et désigne deux rapporteurs.

Apports de la télédétection à la gestion des risques naturels dans le Maghreb

M. André Ozer présente un rapport intitulé comme ci-dessus.

MM. Jean Alexandre, Ivan Beghin et Henri Nicolai prennent part à la discussion.

La séance est levée à 16 h 30.
Elle est suivie d'un Comité secret.

Klasse voor Natuur- en Geneeskundige Wetenschappen

Zitting van 28 april 2009

(Uittreksel van de notulen)

De zitting wordt om 14 u. 30 geopend door de Heer J. Rammeloo, Directeur, bijgestaan door de Heer J.-P. Descy, Vice-directeur, en Mevr. D. Swinne, Vast Secretaris.

Zijn bovendien aanwezig: de HH. J. Alexandre, I. Beghin, J. Bouharmont, E. Coppejans, P. Gigase, P. Goyens, H. Nicolai, Mevr. R. Orban, de HH. A. Ozer, E. Robbrecht, G. Stoops, J.-J. Symoens, E. Van Ranst en M. Wéry, werkende leden; de HH. D. Le Ray, E. Roche en Mevr. M. Wilmet, geassocieerde leden.

Betuigden hun spijt niet aan de zitting te kunnen deelnemen: de HH. J. Belot, M. Coosemans, V. De Brouwere, M. De Dapper, L. D'Haese, S. Geerts, P. Hennart, J.-M. Jadin, J.-P. Malingreau, H. Maraite, L. Tack, P. Van der Veken, Mevr. Y. Verhasselt en M. Vincx.

Microbiële biogeografie en biodiversiteit – een *global change* perspectief

De Heer Wim Vyverman stelt een mededeling voor getiteld als hierboven.

De HH. Eric Van Ranst, Elmar Robbrecht, Jean-Jacques Symoens, Eric Coppejans en Jan Rammeloo nemen aan de bespreking deel.

De Klasse wil de publicatie van een tekst overwegen en duidt twee verslaggevers aan.

„Apports de la télédétection à la gestion des risques naturels dans le Maghreb”

De Heer André Ozer stelt een mededeling voor getiteld als hierboven.

De HH. Jean Alexandre, Ivan Beghin en Henri Nicolai nemen aan de bespreking deel.

De zitting wordt om 16 u. 30 geheven.
Zij wordt door een Besloten Vergadering gevolgd.

Classe des Sciences naturelles et médicales

Séance du 26 mai 2009

(Extrait du procès-verbal)

La séance est ouverte à 14 h 30 par M. J. Rammeloo, Directeur, assisté de Mme D. Swinne, Secrétaire perpétuelle.

Sont en outre présents: MM. I. Beghin, P. Gigase, P. Goyens, J.-P. Malingreau, H. Maraite, J.-C. Micha, H. Nicolaï, A. Ozer et M. Wéry, membres titulaires; MM. L. D'Haese, S. Geerts, E. Roche et Mme M. Wilmet, membres associés; M. P. Muchez, membre de la Classe des Sciences techniques.

Invités: Mme C. De Jaegher, MM. A. Derudas, M. Daoudi, M. et Mme Roose Latteur, M. et Mme Roose Philippe.

Ont fait part de leur regret de ne pouvoir assister à la séance: MM. J. Alexandre, V. De Brouwere, M. De Dapper, E. De Langhe, J.-P. Descy, P. Hennart, D. Le Ray, Mmes R. Orban, F. Portaels, MM. E. Robbrecht, G. Stoops, J.-J. Symoens, L. Tack, E. Tollens, J.-P. Unger, P. Van der Veken, E. Van Ranst, Mmes Y. Verhasselt et M. Vincx.

Décès de M. Jean Bouillon

M. Jan Rammeloo annonce le décès, survenu le 29 mars 2009, de M. Jean Bouillon, membre titulaire honoraire.

Il retrace brièvement la carrière du Confrère disparu.

La Classe observe une minute de silence à la mémoire du défunt.

Mme Rosine Orban est désignée en qualité de rédactrice de l'éloge de M. Jean Bouillon.

Evolution des stratégies de conservation de l'eau et des sols en Afrique

M. Eric Roose présente une communication intitulée comme ci-dessus.

MM. André Ozer, Jean-Paul Malingreau et Henri Maraite prennent part à la discussion.

La Classe accepte d'envisager la publication d'un texte et désigne deux rapporteurs.

Klasse voor Natuur- en Geneeskundige Wetenschappen

Zitting van 26 mei 2009

(Uittreksel van de notulen)

De zitting wordt om 14 u. 30 geopend door de Heer J. Rammeloo, Directeur, bijgestaan door Mevr. D. Swinne, Vast Secretaris.

Zijn bovendien aanwezig: de HH. I. Beghin, P. Gigase, P. Goyens, J.-P. Malingreau, H. Maraite, J.-C. Micha, H. Nicolaï, A. Ozer en M. Wéry, werkende leden; de HH. L. D'Haese, S. Geerts, E. Roche en Mevr. M. Wilmet, geassocieerde leden; de Heer P. Muchez, lid van de Klasse voor Technische Wetenschappen.

Uitgenodigd: Mevr. C. De Jaegher, de HH. A. Derudas, M. Daoudi, de Heer en Mevr. Roose Latteur, de Heer en Mevr. Roose Philippe.

Betuygden hun spijt niet aan de zitting te kunnen deelnemen: de HH. J. Alexandre, V. De Brouwere, M. De Dapper, E. De Langhe, J.-P. Descy, P. Hennart, D. Le Ray, Mevr. R. Orban, F. Portaels, de HH. E. Robbrecht, G. Stoops, J.-J. Symoens, L. Tack, E. Tollens, J.-P. Unger, P. Van der Veken, E. Van Ranst, Mevr. Y. Verhasselt en M. Vincx.

Overlijden van de Heer Jean Bouillon

De Heer Jan Rammeloo kondigt het overlijden aan, op 29 maart 2009, van de Heer Jean Bouillon, erewerkend lid.

Hij schetst bondig de carrière van de overleden Confrater.

De Klasse neemt een minuut stilte in acht ter nagedachtenis van de overledene.

Mevr. Rosine Orban wordt aangeduid als opsteller van de lofrede van de Heer Jean Bouillon.

„Evolution des stratégies de conservation de l'eau et des sols en Afrique”

De Heer Eric Roose stelt een mededeling voor getiteld als hierboven.

De HH. André Ozer, Jean-Paul Malingreau en Henri Maraite nemen aan de bespreking deel.

De Klasse wil de publicatie van een tekst overwegen en duidt twee verslaggevers aan.

**«Resistentie tegen trypanociden bij trypanosomen van het vee:
een verontrustend probleem»**

M. Stanny Geerts présente une communication intitulée comme ci-dessus.

MM. Philippe Goyens, Henri Maraite, Jean-Claude Micha et Luc D'Haese prennent part à la discussion.

La Classe décide de publier ce texte dans le *Bulletin des Séances*.

Prix Lucien Cahen

Conformément à l'article 9 du règlement, la Commission de sélection du Prix a communiqué son rapport à la Classe des Sciences naturelles et médicales. M. Philippe Muchez présente ledit rapport.

Quatre travaux ont été introduits régulièrement:

BERGER, Julien 2008. Les associations de roches basiques-ultrabasiques néopro-térozoïques d'Amalaoulaou (Gourma, Mali), du Tassendjanet (Hoggar occidental, Algérie) et cénozoïques du Saghro (Anti-Atlas, Maroc): témoins de l'évolution géodynamique de la ceinture péricratonique ouest-africaine. — Thèse de doctorat, Université Libre de Bruxelles – Université de La Rochelle, 420 blz.

GODERIS, Steven 2006. Geochemie en distributie van de platinagroepementen in de impactstructuren van Bosumtwi (Ghana, Pleistoceen) en Gardnos (Noorwegen, grens Proterozoïcum-Paleozoïcum). — Licentiaatverhandeling, Universiteit Gent, 103 blz.

KERVYN DE MEERENDRE, Matthieu 2008. Monitoring and modelling volcanoes with assessment of their hazards by means of remote sensing and analogue modelling. — Doctoraal proefschrift, Universiteit Gent, 219 blz.

NYSSSEN, Jan *et al.* 2004-2009. Recueil de quatre publications en rapport avec l'érosion des sols et l'influence de l'homme sur le paysage.

Suivant l'avis de la Commission, la Classe décide d'attribuer le prix à M. Matthieu Kervyn de Meerendré. Il portera le titre de «Lauréat du Prix Lucien Cahen».

La séance est levée à 16 h 55.

**Resistentie tegen trypanociden bij trypanosomen van het vee:
een verontrustend probleem**

De Heer Stanny Geerts stelt een mededeling voor getiteld als hierboven.

De HH. Philippe Goyens, Henri Maraite, Jean-Claude Micha en Luc D'Haese nemen aan de bespreking deel.

De Klasse beslist deze tekst in de *Mededelingen der Zittingen* te publiceren.

Lucien Cahenprijs

Conform artikel 9 van het reglement, heeft de Selectiecommissie van de Prijs haar verslag aan de Klasse voor Natuur- en Geneeskundige Wetenschappen meegedeeld. De Heer Philippe Muchez stelt het verslag voor.

Vier werken werden regelmatig ingediend:

BERGER, Julien 2008. Les associations de roches basiques-ultrabasiques néoproterozoïques d'Amalaoulaou (Gourma, Mali), du Tassendjanet (Hoggar occidental, Algérie) et cénozoïques du Saghro (Anti-Atlas, Maroc): témoins de l'évolution géodynamique de la ceinture péricratonique ouest-africaine. — Thèse de doctorat, Université Libre de Bruxelles – Université de La Rochelle, 420 blz.

GODERIS, Steven 2006. Geochemie en distributie van de platinagroep-elementen in de impactstructuren van Bosumtwi (Ghana, Pleistoceen) en Gardnos (Noorwegen, grens Proterozoïcum-Paleozoïcum). — Licentiaatverhandeling, Universiteit Gent, 103 blz.

KERVYN DE MEERENDRE, Matthieu 2008. Monitoring and modelling volcanoes with assessment of their hazards by means of remote sensing and analogue modelling. — Doctoraal proefschrift, Universiteit Gent, 219 blz.

NYSSSEN, Jan *et al.* 2004-2009. Bundeling van vier publicaties in verband met bodemerosie en de invloed van de mens op het landschap.

Volgens het advies van de Commissie beslist de Klasse de prijs toe te kennen aan de Heer Matthieu Kervyn de Meerendré. Hij zal de titel dragen van „Laureaat van de Lucien Cahenprijs”.

De zitting wordt om 16 u. 55 geheven.

Classe des Sciences techniques

Séance du 30 avril 2009

(Extrait du procès-verbal)

La séance est ouverte à 16 heures par M. J. Berlamont, Directeur, assisté de M. D. Demaiffe, Vice-Directeur, et de Mme D. Swinne, Secrétaire perpétuelle.

Sont en outre présents: MM. J. Charlier, E. Cuypers, J. De Cuyper, G. Demarée, C. De Meyer, A. Lejeune, R. Paepe, J. J. Peters et W. Van Impe, membres titulaires; M. R. Winand, membre associé; M. R. Morelli, membre correspondant.

Ont fait part de leur regret de ne pouvoir assister à la séance: MM. L. André, P. Beckers, T. Camelbeeck, J.-M. Charlet, J. Debevere, H. Deelstra, L. Dejonghe, P. De Meester, J.-J. Droesbeke, P. Goossens, A. Jaumotte, R. Leenaerts, J. Michot, A. Monjoie, P. Muchez, P. Ozer, H. Paelinck, E. Pirard, J. Poesen, P. Sorgeloos, P. Van Damme, M. Van Montagu et Mme Y. Verhasselt.

«The Use of FOSS for Humanitarian Applications»

M. Ralph Morelli présente une communication intitulée comme ci-dessus.

MM. Christian De Meyer, Jean Jacques Peters, André Lejeune, Jean Berlamont et Jacques Charlier prennent part à la discussion.

La Classe décide de publier ce texte dans le *Bulletin des Séances*.

La Revanche du Rail

M. Pierre De Smet a présenté cette communication lors de la séance du 27 novembre 2008.

Après avoir entendu les rapports, la Classe décide de ne pas publier ce texte.

Désignation du rédacteur de l'éloge de M. Georges Panou

La Classe suggère de confier cette tâche à M. Léon Dejonghe.

La séance est levée à 17 h 25.
Elle est suivie d'un Comité secret.

Klasse voor Technische Wetenschappen

Zitting van 30 april 2009

(Uittreksel van de notulen)

De zitting wordt om 16 uur geopend door de Heer J. Berlamont, Directeur, bijgestaan door de Heer D. Demaiffe, Vice-Directeur, en Mevr. D. Swinne, Vast Secretaris.

Zijn bovendien aanwezig: de HH. J. Charlier, E. Cuypers, J. De Cuyper, G. Demarée, C. De Meyer, A. Lejeune, R. Paepe, J. J. Peters en W. Van Impe, werkende leden; de Heer R. Winand, geassocieerd lid; de Heer R. Morelli, corresponderend lid.

Betuijden hun spijt niet aan de zitting te kunnen deelnemen: de HH. L. André, P. Beckers, T. Camelbeeck, J.-M. Charlet, J. Debevere, H. Deelstra, L. Dejonghe, P. De Meester, J.-J. Droesbeke, P. Goossens, A. Jaumotte, R. Leenaerts, J. Michot, A. Monjoie, P. Muchez, P. Ozer, H. Paelinck, E. Pirard, J. Poesen, P. Sorgeloos, P. Van Damme, M. Van Montagu en Mevr. Y. Verhasselt.

„The Use of FOSS for Humanitarian Applications”

De Heer Ralph Morelli stelt een mededeling voor getiteld als hierboven.

De HH. Christian De Meyer, Jean Jacques Peters, André Lejeune, Jean Berlamont en Jacques Charlier nemen aan de bespreking deel.

De Klasse beslist deze tekst in de *Mededelingen der Zittingen* te publiceren.

„La Revanche du Rail”

De Heer Pierre De Smet heeft deze mededeling voorgesteld tijdens de zitting van 27 november 2008.

Na de verslagen gehoord te hebben, beslist de Klasse deze tekst niet te publiceren.

Aanduiding van de opsteller van de lofrede van de Heer Georges Panou

De Klasse stelt voor deze taak toe te vertrouwen aan de Heer Léon Dejonghe.

De zitting wordt om 17 u. 25 geheven.

Zij wordt door een Besloten Vergadering gevolgd.

Classe des Sciences techniques

Séance du 28 mai 2009

(Extrait du procès-verbal)

La séance est ouverte à 14 h 30 par M. J. Berlamont, Directeur, assisté de M. D. Demaiffe, Vice-Directeur, et de Mme D. Swinne, Secrétaire perpétuelle.

Sont en outre présents: MM. L. André, P. Beckers, A. Bernard, E. Cuypers, J. De Cuyper, L. Dejonghe, J.-J. Droesbeke, W. Loy, H. Paelinck, M. Van den Herrewegen, T. Van Frachen, membres titulaires; MM. J. Hus et R. Winand, membres associés.

Ont fait part de leur regret de ne pouvoir assister à la séance: MM. J.-M. Charlet, J. Charlier, J. Debevere, H. Deelstra, G. Demarée, A. Jaumotte, R. Leenaerts, A. Lejeune, L. Maertens, J. Michot, A. Monjoie, P. Muchez, T. Notteboom, R. Paepe, J. Poesen, J. Roos, P. Sorgeloos, F. Thirion, W. Van Impe et Mme Y. Verhasselt.

De la jeune Terre à Mars, une silicification omniprésente: les témoins des interactions eaux-roches primitives?

M. Luc André présente une communication intitulée comme ci-dessus.

MM. Honoreus Paelinck, Léon Dejonghe, Jozef Hus, Pierre Beckers et Daniel Demaiffe prennent part à la discussion.

La Classe décide de publier ce texte dans le *Bulletin des Séances*.

«Wereldeconomie en scheepvaart – 2009»

M. Honoreus Paelinck présente une communication intitulée comme ci-dessus.

MM. Walter Loy, René Winand, Marc Van den Herrewegen et Luc André prennent part à la discussion.

La Classe décide de publier ce texte dans le *Bulletin des Séances*.

Distinctions académiques

M. Eric Lambin a été nommé membre de l'Académie nationale américaine des Sciences qui récompense chaque année des scientifiques et ingénieurs du monde entier pour leurs travaux originaux et leur contribution au développement de la recherche et son usage pour le grand public.

Klasse voor Technische Wetenschappen

Zitting van 28 mei 2009

(Uittreksel van de notulen)

De zitting wordt om 14 u. 30 geopend door de Heer J. Berlamont, Directeur, bijgestaan door de Heer D. Demaiffe, Vice-Directeur, en Mevr. D. Swinne, Vast Secretaris.

Zijn bovendien aanwezig: de HH. L. André, P. Beckers, A. Bernard, E. Cuypers, J. De Cuyper, L. Dejonghe, J.-J. Droesbeke, W. Loy, H. Paelinck, M. Van den Herrewegen, T. Van Frachen, werkende leden; de HH. J. Hus en R. Winand, geassocieerde leden.

Betuyden hun spijt niet aan de zitting te kunnen deelnemen: de HH. J.-M. Charlet, J. Charlier, J. Debevere, H. Deelstra, G. Demarée, A. Jaumotte, R. Leenaerts, A. Lejeune, L. Maertens, J. Michot, A. Monjoie, P. Muchez, T. Notteboom, R. Paepe, J. Poesen, J. Roos, P. Sorgeloos, F. Thirion, W. Van Impe en Mevr. Y. Verhasselt.

„De la jeune Terre à Mars, une silicification omniprésente: les témoins des interactions eaux-roches primitives?”

De Heer Luc André stelt een mededeling voor getiteld als hierboven.

De HH. Honoreus Paelinck, Léon Dejonghe, Jozef Hus, Pierre Beckers en Daniel Demaiffe nemen aan de bespreking deel.

De Klasse beslist deze tekst in de *Mededelingen der Zittingen* te publiceren.

Wereld economie en scheepvaart – 2009

De Heer Honoreus Paelinck stelt een mededeling voor getiteld als hierboven.

De HH. Walter Loy, René Winand, Marc Van den Herrewegen en Luc André nemen aan de bespreking deel.

De Klasse beslist deze tekst in de *Mededelingen der Zittingen* te publiceren.

Academische onderscheidingen

De Heer Eric Lambin werd tot lid van de Amerikaanse Nationale Academie voor Wetenschappen, die elk jaar wetenschappers en ingenieurs van over de hele wereld beloont voor hun origineel werk en hun bijdrage tot de ontwikkeling van het onderzoek en het gebruik ervan voor het grote publiek, benoemd.

M. Jean Marchal a été nommé vice-recteur chargé des relations internationales de l'Université de Liège.

Concours 2009

Un travail a été introduit régulièrement en réponse à la cinquième question du concours 2009, intitulée «On demande une étude sur les problèmes d'inondation dans des régions d'outre-mer subissant des modifications morphologiques qui changent les capacités d'évacuation des crues dans les cours d'eau. Ces modifications peuvent avoir des causes naturelles (érosions des sols dans les bassins versants, tectonique, subsidence, etc.) ou être liées à la présence humaine (aménagement pour le contrôle des crues, barrages, canalisation du lit des rivières, pompage d'eau, extraction de sédiments, etc.)»:

HUYBRECHTS, Nicolas 2008. Fully Coupled ID Model of Mobile-bed Alluvial Hydraulics: Application to Silt Transport in the Lower Yellow River. — Thèse Université Libre de Bruxelles, Faculté des Sciences Appliquées, 144 pp. + Annexes (7 pp.).

Après avoir entendu les rapports de MM. Jean Berlamont, André Lejeune et Jean Jacques Peters, la Classe décide de n'attribuer ni prix, ni mention honorable à ce travail.

Aucun travail n'a été introduit régulièrement en réponse à la sixième question du concours 2009, intitulée «On demande une étude de faisabilité technico-économique sur les énergies alternatives renouvelables susceptibles d'être appliquées dans les pays en voie de développement. L'étude peut concerner l'énergie solaire (panneaux ou photovoltaïque), l'énergie éolienne, la biomasse (biogaz ou gazogène) ou la minihydraulique. L'étude inclura la description technique du ou des procédés envisagés et donnera l'estimation des coûts d'investissement, d'exploitation et d'entretien comparés par ex. à la production diesel. Comment ces énergies alternatives peuvent-elles contribuer à la diminution de la déforestation et de l'usage du bois de coupe?».

La séance est levée à 16 h 55.

De Heer Jean Marchal werd tot vice-recteur belast met de internationale betrekkingen van de *Université de Liège* benoemd.

Wedstrijd 2009

Eén werk werd regelmatig ingediend in antwoord op de vijfde vraag van de wedstrijd 2009 „Men vraagt een studie over de overstromingsproblemen in overzeese gebieden die morfologische veranderingen ondergaan waardoor de afvoer-capaciteit van de wassen in de rivieren verandert. Deze wijzigingen kunnen van natuurlijke oorsprong zijn (landerosie in de stroombekkens, tektoniek, verzakkingen, enz.) of gebonden zijn aan de menselijke aanwezigheid (werken om de wassen te beheersen, stuwen, kanalisatie van de rivierbedding, pompen van water, winning van sedimenten, enz.)”:

HUYBRECHTS, Nicolas 2008. Fully Coupled ID Model of Mobile-bed Alluvial Hydraulics: Application to Silt Transport in the Lower Yellow River. — Thèse Université Libre de Bruxelles, Faculté des Sciences Appliquées, 144 pp. + Annexes (7 pp.).

Na de verslagen van de HH. Jean Berlamont, André Lejeune en Jean Jacques Peters gehoord te hebben, beslist de Klasse noch Prijs noch eervolle vermelding aan dit werk toe te kennen.

Geen enkel werk werd regelmatig ingediend in antwoord op de zesde vraag van de wedstrijd 2009 „Men vraagt een technisch-economische haalbaarheidsstudie over de hernieuwbare alternatieve energieën die in de ontwikkelingslanden van toepassing kunnen zijn. Deze studie kan betrekking hebben op zonne-energie (panelen of fotovoltaïsch), windenergie, bio-energie (biogas of gasgeneratoren) of minihydraulica. De studie zal tevens een technische beschrijving omvatten van de weerhouden procédés en een schatting maken van de investerings-, exploitatie- en onderhoudskosten in vergelijking met bvb. de dieselpductie. Hoe kunnen deze alternatieve energieën bijdragen tot de vermindering van de ontbossing en het gebruik van kaphout?”

De zitting wordt om 16 u. 55 gegeven.

TABLE DES MATIERES — INHOUDSTAFEL

**Communications scientifiques
Wetenschappelijke mededelingen**

Expressions of Traditional Wisdom (International Symposium 28.09.2007):

W. VAN BINSBERGEN. — Expressions of Traditional Wisdom: What Africa can Teach the World today 281

M. SEIFERT. — Traditional Wisdom and Ideas about History in Bantu Oral Traditions of Namibia and Angola 307

L. CUELENAERE. — Walking and Living: The Ambiguity of the Sacred 319

A. ADENIJI. — Traditional Wisdom as Literary Artefact: The Example of D.O. Fagunwa's Prose Narratives 329

H. LINK. — 5 + 5 = 9. Numeric Calculations in Southern India and Eastern Indonesia as Part of Man's World View 335

M.-Y. LEE. — The Role of Sentiments in Liang Chi-Chao's and Tsai Yuen-Pei's Aesthetic Thoughts. Observing the Transition from Traditional Confucianism to Modern Aesthetics 341

L. KOUTSOUMPOS & Y. ZHUANG. — The Way of Phronesis: Revisiting Traditional Wisdom in Architecture 345

N. WEIDTMANN. — Traditional Wisdom in Sub-Saharan Africa: An African Origin of Philosophy 355

EOLSS — Encyclopedia of Life Support Systems (Séance commune / Gemeenschappelijke zitting 19.06.2008):

A. OZER. — Welcome Address 367

D. AL GOBAISI. — Evolution of a Knowledge Resource for a Better World (Encyclopedia of Life Support Systems (EOLSS) for the Decade of Education for Sustainable Development and Beyond) 369

T. G. DELLA SENTA. — Sharing Knowledge across Language Barriers: A Challenge for EOLSS 399

M. EL TAYEB. — Concluding Remarks 407

R. LEENAERTS. — Closing Speech 409

Procès-verbaux — Notulen

Classe des Sciences morales et politiques / Klasse voor Morele en Politieke Wetenschappen:

Séance du 24 avril 2009 / Zitting van 24 april 2009 412; 413

Séance du 19 mai 2009 / Zitting van 19 mei 2009 414; 415

Classe des Sciences naturelles et médicales / Klasse voor Natuur- en Geneeskundige Wetenschappen:

Séance du 28 avril 2009 / Zitting van 28 april 2009 418; 419

Séance du 26 mai 2009 / Zitting van 26 mei 2009 420; 421

Classe des Sciences techniques / Klasse voor Technische Wetenschappen:

Séance du 30 avril 2009 / Zitting van 30 april 2009 424; 425

Séance du 28 mai 2009 / Zitting van 28 mei 2009 426; 427

