

# Science and spirituality

by Toon van Eijk

**A differentiation can be made between three approaches within contemporary science: the positivist, constructivist and transcendentalist. Toon van Eijk compared these approaches as part of his PhD study.**

A paradigm is a compact outline of the concepts, assumptions, procedures, propositions and problems of a theoretical approach. Generally speaking the positivist paradigm underlies most conventional agricultural research and education. The constructivist paradigm is gradually making headway through the introduction of participatory methodologies and indigenous knowledge research. The transcendentalist paradigm is more oriented towards the cosmovision of indigenous peoples and local groups from non-western cultures who are often involved in research and development programmes. In some ways it seems related to the cosmovision approach of COMPAS (See box on next page). The three paradigms can be characterised by various criteria, as shown in the table.

## Thinking-being or just being

Although the constructivist paradigm is an important addition to the dominant positivist paradigm, its central concepts of communication, participation and facilitation, are unlikely to be sufficient in the quest for sustainable farming systems. Both positivist and constructivist paradigms are grounded in 'rational-empirical consciousness' or thinking-being. The famous western philosopher Descartes' saying "*cogito ergo sum*" (I think therefore I am) - implies that the only 'being' is a 'thinking-being'. It denies the possibility of a state of consciousness beyond thought.

The step-by-step learning process in which one goes beyond identifying with this consciousness can be referred to as spirituality. Spirituality is defined here as the process in which one systematically trains receptiveness to gain regular access to 'transcendental consciousness', the state of just 'being' or mental silence. Instead of thinking-

being, the experience of just being is emphasised.

The general assumption in the positivist and constructivist paradigms is that a state of consciousness without any interpretative activity of the mind is impossible. A state of pure consciousness, in which all thinking has been transcended, is deemed incomprehensible or unthinkable. As a matter of fact, the state of transcendental consciousness is unthinkable: it can only be experienced by transcending all thinking. The possibility of consciousness in which continual thinking - talking to oneself, our internal dialogue - calms down, can be realised through meditation techniques.

## Beyond rationality

Change agents can intellectually understand and respectfully accept the presence of spirituality in indigenous knowledge systems, but it will remain a 'vague' concept to them as long as it is not internalised in direct personal experience. Cosmovision as an intellectual concept is certainly a step forward, but is not sufficient in itself. It refers to the contents of consciousness only. In the perspective of the transcendentalist paradigm, language-mediated interaction must be supported by consciousness-mediated interaction. Rational thinking is not discarded, but restored to its proper place in the spectrum of modes of being.

Spirituality is understood as an individual, free, horizontal and above all experiential activity. It is not based on dogmas, but on do-it-yourself techniques intended to break the continuous spell of rational-empirical consciousness. It is unfortunate that in the separation of science and religion, which occurred in Europe after the Middle Ages, spirituality was thrown out of institutionalised religion. In this context, the difference between religion - as epitomised in churches and faith - and spirituality is important. True spirituality is a gentle form of anarchy. Where blind obedience rules, spirituality is excluded. Spirituality refers to the original meaning of religion: relegate, to (re)connect to the field of transcendental consciousness. Such spirituality gives way to participatory modes of being, which result in environmentally and socially favourable behaviour. Ironically, positivistic scientific evidence to

support this statement is available, for example, in research on the effects of transcendental meditation techniques. This research work strongly suggests that the quality of life in society is influenced by the quality of the collective consciousness. A 'high quality' collective consciousness 'orchestrates' by virtue of an holistic field effect.

## Opposites

In the perspective of the transcendentalist paradigm, it is the field of transcendental consciousness that integrates all opposites. When this field is 'enlivened' in the mind, opposites are increasingly 'lived' in harmony. The field of transcendental consciousness embraces the two greatest opposites of all: evolution and entropy, order and chaos. Nature displays growth and decay, but the 'orchestrating' force of the field of transcendental consciousness is always there. All mystical traditions point out that the ultimate reality is a union of opposites.

## Effective action?

Spirituality, however, does not automatically result in effective action in the physical domain. Relevant knowledge and practical skills, which are always socially constructed, are also necessary. Experiential spirituality can guide the application of such knowledge and skills in a socially and environmentally compatible direction. In this sense, access to the field of transcendental consciousness facilitates the implementation of methodologies based on positivist and constructivist paradigms in a more sustainable way.

Just as mathematical knowledge can be confirmed or refuted by equally trained mathematicians, spiritual knowledge can be checked best by peers - persons trained in techniques for consciousness development. Spirituality is open to investigation using scientific methods, such as experiential validation or refutation. It is, in fact, easier for laymen to verify the possibility of access to 'higher' states of consciousness and the beneficial effects thereof, than to test, for example, the claims of atomic physics. □

*Characterisation of the positivist, constructivist and transcendentalist paradigms*

	<b>Positivist paradigm</b>	<b>Constructivist paradigm</b>	<b>Transcendentalist paradigm</b>
<b>Nature of reality</b>	Assumes that the world is materialistic, systematic and can be engineered	Assumes that the world is problematic and can be discussed	Assumes that the world is holistic and can be directly experienced.
<b>Nature of knowledge</b>	Dualistic but no interaction, observer and observed are separate, independent	Dualistic with interaction, observer and observed are interactively linked, knowledge is socially constructed	Monistic (oneness of subject and object in the universal world) and dualistic with interaction (in the relative world)
<b>Methodology</b>	Sensory perception, experimental testing  Quantitative, systematic  Mainly mono-disciplinary and multi-disciplinary  Verification in a community of objective spectators	Debates resulting in 'more informed' constructions, communication, negotiation, accommodation of different world views.  More qualitative, more holistic and systemic than the positivist paradigm.  More inter-disciplinary  Verification in a community of intersubjective interpreters	Methods for consciousness development, meditation, facilitation of accommodation of different levels of consciousness and realities.  Qualitative, holistic,  Trans-disciplinary, unity-in-diversity of the knowledge quest, science and spirituality;  Verification in a community of trans-subjective interpreters
<b>Nature and role of science</b>	Natural sciences  Science is the only source of truth and innovation  Key words: explanation, control, prediction, solve problems  Scientist is problem-solver	Hybrid of natural and social sciences.  Communicative interaction is source of truth and innovation.  Key words: understanding, interpretation, participation, negotiation, mediation, facilitation of individual and joint learning, improve situations.  Scientist is active partner in the social construction of reality, co-learner and facilitator	Hybrid of sciences and techniques for consciousness development  Access to pure consciousness facilitates truth and innovation  Key words: direct experience of unity, participatory basic attitude, facilitation of positivist- and constructivist-oriented methodologies  Scientist is equal participant, co-learner, facilitator
<b>Type of rationality</b>	Values and norms are beyond rational discussion, strict fact-value dualism  Focus on best technical means	Values and norms are source of rational discussion, fact-value dualism suspended, but remains problematic  Goals/objectives are questioned	Experiential spirituality facilitates the cultivation of social and environmentally-friendly values and norms (basic attitudes)  Experiential spirituality guides application of knowledge and skills
<b>Role of extension</b>	Transfer-of-technology, teaching transfer of data and information	Facilitation of participatory learning processes, sharing, interpretation and transformation of data and information	Integral human development, transformation of attitudes
<b>Spirituality</b>	Not relevant or only recognised as transcendent or 'vertical' spirituality which is separated from science	Indigenous knowledge, spirituality as component of world views that can be discussed and used to enhance empowerment of farmers, spirituality as an intellectual concept	Spirituality as the process in which one systematically trains sensitivity to gain regular access to transcendental consciousness Ecological spirituality as direct experience of solidarity with nature, an inner experience of belonging to a larger whole

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**Compas**

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For many indigenous people and rural communities, farming is something more than just working with the bio-physical elements such as seed, soil and water, and more than just working for the market. In many cases the people have a worldview that takes into account the natural world, the social world and the spiritual world. Thus farming involves the application of rules that reflect their notion of a

sacred nature that follow from a responsibility in a community in which indigenous institutions play decisive roles.

Many people in the south have the notion that a good harvest can only be obtained if farming is practised in harmony with the laws of nature, the regulations of the community and the rules set by the gods and other spiritual beings.

Frequently, rural people observe a lack of appreciation for their indigenous knowledge, concepts, traditional institutions and processes of learning and experimenting. Especially non-material aspects are generally not appreciated by outside persons and mainstream organisations. Many efforts of international development programmes have failed: the gap between the indigenous worldview and outside knowledge frequently was too wide. Through a mutual learning process, western science could benefit from holistic aspects of indigenous knowledge, and at the same time western science could contribute to indigenous knowledge. A way to achieve such a mutual learning process is to establish a platform for intercultural dialogue on indigenous knowledge, cosmovision and cultural diversity; COMPAS.

This intercultural dialogue will accept the existence and relevance of different knowledge systems. It will try to avoid

romanticising or condemning indigenous and western knowledge. Through the intercultural dialogue a platform will be created to challenge and to learn from each other.

The final objective is to enhance endogenous development and cultural diversity by support to development organisations in their efforts to build their approach on indigenous knowledge.

The main goals are:

1. To initiate, carry out and support local initiatives that enhance cultural diversity and indigenous knowledge development;
2. To systematically develop approaches for endogenous development;
3. To consolidate the platform for intercultural dialogue and information exchange on culture, cosmovision and development.

For more information about the activities COMPAS carries out to reach these goals write to: **ETC Foundation, Bertrus Haverkort and Wim Hiemstra, P.O. Box 64, 3830 AB Leusden, The Netherlands** (Fax: +31 33 4940791; Email: compas@etcnl.nl)

They will also be able to provide you with information about COMPAS partners in Bolivia, Peru, Ghana, Zimbabwe, Sri Lanka, India, Nepal, Indonesia.