

# Science and Spirituality

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. The transcendental approach seems related to the cosmovision approach of Compas.**

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 the local groups involved. The three paradigms can be characterised by various criteria, as shown in table 1.

## 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 the identification with '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 'thinking-being'. It denies the possibility of a state of consciousness beyond thought.

The step-by-step learning process in which one goes beyond the 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 or the 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 as long as it is not internalised in direct personal experience. In addition to explaining the underlying ways of experiencing life by farmers and change agents, experience in the field of transcendental consciousness is necessary. Cosmovision as an intellectual concept is certainly a step forward, but 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 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: *relegare*, religion, 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. 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 holistic field effect (Van Eijk 1998).

## 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.

## Reference:

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P.O. Box 12548, Dar es Salaam,  
Tanzania  
Tel/fax: +255-51-650356  
E-mail: tvaneijk@ud.co.tz

**Table 1: Characterisation of the positivist, constructivist and transcendentalist paradigms**

|                            | <b>Positivist paradigm</b>   | <b>Constructivist paradigm</b>  | <b>Transcendentalist paradigm</b>   |
|----------------------------|--|---|---|
| Nature of reality          | 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.   |
| Nature of knowledge        | 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)  |
| Methodology                | Sensory perception, experimental testing<br><br>Quantitative, systematic<br><br>Mainly mono-disciplinary and multi-disciplinary<br><br>Verification in a community of objective spectators | Debates resulting in 'more informed' constructions, communication, negotiation, accommodation of different world views<br><br>More qualitative, more holistic and systemic than the positivist paradigm<br><br>More inter-disciplinary<br><br>Verification in a community of intersubjective interpreters   | Methods for consciousness development, meditation, facilitation of accommodation of different levels of consciousness and realities<br><br>Qualitative, holistic<br><br>Trans-disciplinary, unity-in-diversity of the knowledge quest, science and spirituality;<br><br>Verification in a community of trans-subjective interpreters                  |
| Nature and role of science | Natural sciences<br><br>Science is the only source of truth and innovation<br><br>Key words: explanation, control, prediction, solve problems<br><br>Scientist is problem-solver           | Hybrid of natural and social sciences<br><br>Communicative interaction is source of truth and innovation<br><br>Key words: understanding, interpretation, participation, negotiation, mediation, facilitation of individual and joint learning, improve situations<br><br>Scientist is active partner in the social construction of reality, co-learner and facilitator | Hybrid of sciences and techniques for consciousness development<br><br>Access to pure consciousness facilitates truth and innovation<br><br>Key words: direct experience of unity, participatory basic attitude, facilitation of positivist- and constructivist-oriented methodologies<br><br>Scientist is equal participant, co-learner, facilitator |
| Type of rationality        | Values and norms are beyond rational discussion, strict fact-value dualism<br><br>Focus on best technical means  | Values and norms are source of rational discussion, fact-value dualism suspended, but remains problematic<br><br>Goals/objectives are questioned  | Experiential spirituality facilitates the cultivation of social and environmentally-friendly values and norms (basic attitudes)<br><br>Experiential spirituality guides application of knowledge and skills   |
| Role of extension          | 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   |
| Spirituality               | 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<br>Ecological spirituality as direct experience of solidarity with nature, an inner experience of belonging to a larger whole   |