

Experiential science as a novel scientific discipline

Ton Baars, Jan-Paul Wagenaar

Louis Bolk Institute, Department for research in Organic Agriculture, Hoofdstraat 24, 3972 LA Driebergen, The Netherlands

ABSTRACT

This paper positions experiential science as a new discipline in science with its own characteristics and principles. New elements in experiential science are the recognition of unique patterns in relation to previous actions and the reflection on intuitive, unique actions. There is a need for a new vocabulary to develop experiential science as a novel discipline.

Keywords: organic farming; experiential science; patterns; intuition

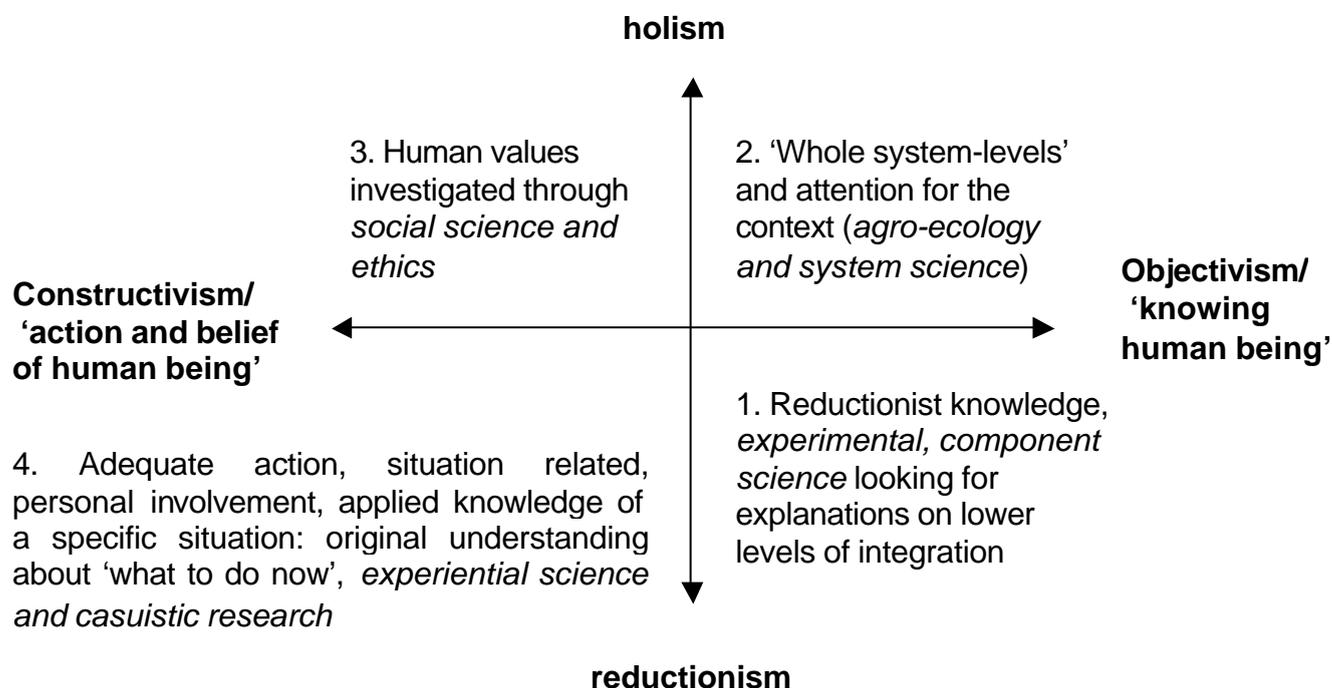
INTRODUCTION

The process of learning by a pioneering farmer during his daily farming actions at the farm contrasts with the process of learning in formal science. As a matter of principle, management in organic farming is complex. In contrast to conventional systems, organic farmers rely on preventive and adaptive management and therefore their actions are not primarily based on the technical and corrective control of symptoms.

EXPERIENTIAL SCIENCE

To position the discipline of experiential science a matrix of four quadrants can be used, based on a horizontal axis of constructivism versus positivism and a vertical axis of reductionism versus holism (figure 1). Experiential science is located in the forth quadrant. Adequate, situation based action focuses on an individual farm case study, personal answers and site adapted solutions. Findings are integrated in context related action (subjective) by reflection on situation based knowledge which leads to adequate and local answers (and which is in the end reductionistic). It includes intuitive learning or action by the farmer (Lyon, 1996; Baars & De Vries, 1998), which has been made conscious for communication to others by a process of reflection. Whereas experimental research typically strives 'to exclude the possibility that something else has caused the effect', casuistic outcome research aims to identify a cause on the basis of its unique pattern. Pictorial correspondence or pattern matching' (Kiene, 1998) makes it possible to establish a causal relationship. Here the singularity of the pattern, the recognition of unique patterns and the understanding of their correspondence actions, play a central methodological role. In casuistic outcome research this principle is used in various different ways - for example to examine patterns in space and time (Kiene, 1998). The vocabulary used by the farmers should also be included in the learning process (Wemelsfelder *et al.*, 2000). In experiential science the new vocabulary and concepts should express the farmers' action and at the same time be an inspiration for new action initiatives (Van der Burgt & De Vries, 1999). A preliminary stage of such new concepts is the use of metaphors (McClintock, 2000).

Figure 1. Methods of learning based on the tension of reductionistic versus holistic science approaches and of the constructed versus the objective world.



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