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## Cognitive challenges of epistemology in management sciences

**Abstract:** The objective of the paper is analysis of relatively new field of basic research in management which is epistemology of organization and management. There are several cognitive challenges concerning definitions of the fundamental terms and formulating hypotheses in management. The postulated construct of epistemology of management could be interpreted like a valuable scientific area.

**Key-words:** epistemology of management, cognitive problems of management, methodology of management.

### Introduction

The objective of the paper is an analysis of a relatively new field of basic research in management which is epistemology of organization and management [Sułkowski 2005]. There are several cognitive challenges concerning definitions of the fundamental terms and formulating hypotheses in management. The examples of unclear basic terms in management could be: “management”, “organization”, “organizational culture” [Sułkowski 2008, 2009] and so on. The postulated construct of epistemology of management could be interpreted like a valuable scientific area.

### Meaning of epistemology in management

The word ‘epistemology’ comes from the Greek words *episteme* and *logos*, both of which mean knowledge, although of different kinds. Thus, epistemology may be called ‘knowledge about knowledge’ or in other words, ‘the science of cognition’. Epistemological issues were taken up by Plato and Aristotle as far back as antiquity, although the name itself and the branch of the philosophical

discourse it covered were not developed until the beginning of the 20th century. However, philosophy is not an empirical science and undertakes discourse on the highest level of generalisation, which often makes it more difficult to draw conclusions concerning the detailed disciplines of the science. Under the influence of the development of the science of philosophy and empirical sciences, the basic epistemological issues of getting to know reality stopped being the sole domain of philosophical discourse [Auroux, Weil 1991, p. 74].

Representatives of all the sciences undertake epistemological and methodological reflections, allowing them to shape the directions of the development of their cognitive discourse. The comprehensiveness and extensiveness of the research issues of all modern sciences require the selection of valuable threads, leading to significant cognitive and practical results. The critical cognitive reflection is especially needed in the case of social sciences dealing with complex scientific problems which do not offer clear criteria for measuring the epistemological value. Thus, it seems that in the case of management science, it is worth undertaking discussion about significant cognitive questions of a general nature, such as defining the essence of an organisation and management, the significance of theory, or the insight specificity of management's scientific methods [Sułkowski 2012].

Formulating the neopragmatic approach, R. Rorty declares the 'ruin' of epistemology. He suggests that the concept of general cognitive theory itself is pointless, as it is based on the questioned assumption that cognition is a reflection of reality [Rorty 1999]. Regardless of the postmodernist scepticism about the creation of the 'great illusion' of the meta-theory of cognition, the cognitive value of epistemological analyses is in the critical view of the results of inquiries and research in all scientific disciplines. Perhaps the crisis of epistemology on a general level is even a premise to move the cognitive reflections to the level of detailed disciplines. By placing the paradigm on the discipline level, T.S. Kuhn introduced the most important cognitive discussions into the detailed sciences, moving the problems previously reserved for epistemology and understood as a branch of philosophy, to the humanities, social sciences and natural science [Kuhn 1968]. Failures of the attempts to find the cognitive foundations – the universals of cognition and science – led to a moving of the epistemological discourse to the level of detailed disciplines. But if the area of epistemological problems is not suitable for developing a universal theory of cognition, it is still the space for reflections about cognitive assumptions underlying the development of various disciplines. Epistemology is no longer the meta-theory of cognition, but has become a cognitive self-reflection of the given discipline. The burden of analyses and inquiries is moved to the specialists in the given scientific field or discipline, or even in the given research area. By creating their own discourse, they should be able to leave it aside, criticise, question and

discover its cognitive assumptions. Thus, the responsibility for the assessment of its cognitive value rests with the researchers in the given field. By treating it this way we move epistemology to each of the detailed disciplines, which entails completely new challenges and results in a mixing of the discourses of the philosophy of cognition with 'local' approaches, characteristic of empirical sciences. However, it also means new challenges for researchers who are no longer only empiricists, but have to be philosophers to some extent. Are the deliberations of the epistemology of management only meaningless digressions? Can this area only be barren *terra incognita*?

Epistemology gains the importance of an in-depth reflection of a scientific discipline, concerning its cognitive foundations. It can be a base for the methodological development of social sciences. In this sense, the epistemology of management lies at the meeting point of the cognitive philosophy discourse and the theory of organisation and management. This interdisciplinary character increases the number of difficulties in constructing a new discourse on meta-management. The epistemology of management would include, on the one hand, management, organisation, its strategy, structure or culture; on the other hand: paradigms, epistemic thresholds, theories and their verification. However, it is worth developing this area of analysis, as it allows us to raise key questions, the answers to which are not that obvious. The fact that a given way of thinking is rooted in a given discipline gives an impression of certainty in relation to the basic cognitive issues, and only a crisis in the discipline can reveal the need for reflections on the epistemological foundations. The assumption that epistemology should be placed on the level of detailed disciplines does not translate into a postulate of hermetisation and isolation of discourses of different sciences. Quite the contrary, the examples and patterns of problem-solving may be useful in different scientific discourses, not always strictly carried over in an identical form, but used as an inspiration, a metaphor or an analogy. Furthermore, it is possible to outline areas of common research within different areas of institutionally divided academic sciences. However, entering the area of the epistemology of management, one should realise the dangers of a discourse carried out on the borderline between different disciplines. The problem of combining different areas is often a transposition of notions and concepts that are not used in the other discipline in the same way. A. Sokal and J. Bricmont described an extreme example of scientific and linguistic abuses in social sciences, being a result of the unjustified and improper use of notions drawn from mathematics and natural science in the discourse of social sciences. At the same time, they emphasised that they are not against transferring concepts between different disciplines, but against their unjustified extrapolation [Sokal, Bricmont 1998, p. 10]. Epistemological reflection is needed in management science, as it can contribute to the enrichment of the concepts and sources of knowledge.

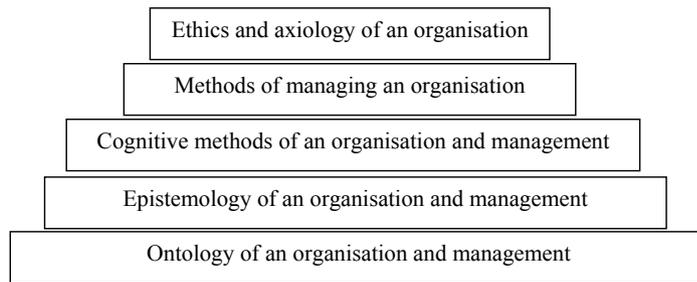
### **Levels of cognition in management**

What is proposed here is the constituting of epistemological reflection in management science as a solution that can bring about constructive cognitive and pragmatic results. It would mean understating the basic discussion about the essence, research methods and the condition of researchers with the use of a creative framework drawn from other sciences, such as the philosophy of cognition, cognitive sciences, sociology, cultural anthropology and economics. The danger of such a path is the excessive complexity of the organisation's image, hindering practical applications and possibly leading to 'theoretical autism'. Such experiences are well known to numerous social sciences, such as sociology, political science and cultural anthropology. The drive to undertake efforts related to the development of epistemology and management as a research area, consolidating the cognition of an organisation, is justified by the need to develop intellectual tools supporting the assessment of the cognitive value, strengthening the possibility to separate scientific and pseudoscientific works. More and more of the conceptions of management gurus, aspiring to be the philosopher's stone of managers, do not in most cases have a scientific character. They rather have a tautological construction, oversimplify the complexities and lack the possibility of verification, which makes them close to the conceptions of pseudosciences such as astrology. Thus, if management is to maintain and develop its status as a science, or rather as a science and art at the same time, it should take up the task to consolidate its cognitive foundations and to develop criteria for valuable knowledge [Krzyżanowski 1999]. Of course, management science should not ignore the lessons drawn from the development of the modern philosophy of cognition, which prove that the criteria for a rational and scientific nature has no universal, objective or reliable character [Laurie, Cherry 2003]. An important argument calling for the development of a research field for the epistemology of management is the reference to the Polish tradition of praxeology, which since the very beginning had epistemological aspirations and was an ambitious attempt to provide a generalised philosophical reflection on the conditions for efficient human actions [Kotarbiński 1986, 1955, p. 360]. Today, praxeology is one of numerous currents of cognitive reflection which provides the foundations for management science, and due to its pioneering position in Poland, is an especially important cognitive perspective.

The philosophy of cognition as transferred to management science includes ontology, epistemology and organisation methodology [Frontodona, Melé 2002]. The ontology defines the bases for the functioning of an organisation which may be perceived in realistic or conventionalist categories, epistemology examines the varieties of organisational cognition, and from the cognitive perspective one can assume diverse ways of perceiving an organisation. The basic

point of view juxtaposes the objectivist approach with the subjectivist. The methodology focuses on the development of effective methods of management cognition and improvement. Therefore, one can see the distinction between the cognitive and pragmatic methods. Furthermore, the philosophy of science includes the issues of axiology and the ethics of management (Figure 1).

**Figure 1. The levels of cognition of an organisation and management**



Source: own work.

### **Crutial cognitive questions in management**

The ontology of an organisation and its management includes the issue of the organisation's existence, managerial processes and their elements. The key ontological problems include the questions about the existence and the essence of an organisation and management:

- What is an organisation?
- What are the elements of an organisation?
- What is management?
- Are organisations and management bodies real entities, or are they of a nominalistic character?

In modern science, ontology relates to the essentialist questions about the essence of entities, and loses significance because of epistemology and methodology, which focus on getting to know reality [Adamkiewicz-Drwiłło 2008, p. 95]. The epistemology of management science looks into the ways of cognition of an organisation and management. The key problems of the epistemology of management include:

- What is the study subject of an organisation and management?
- What is the level of reliability of knowledge about an organisation and management?

- How do you reach the truth in the case of management science?
- Does management have paradigms?
- What is the theory of management?
- What are the relations between theory and practice?
- What is the subject of cognition?
- What are the boundaries of management science?

The aim of management science's methodology is to develop systematic and effective procedures of cognition and improvement of an organisation and management. Thus, it has both descriptive and normative purposes. The basic methodological questions refer to both epistemological and pragmatic aspects:

- Is there a scientific method of management?
- How can you get to know an organisation?
- How can you shape an organisation?
- How do you manage it?
- What cognitive and pragmatic methods does management use?

The aim of the axiology and ethics of management is to analyse the relations between cognition and valuation. The examined problems may have the form of cognitive questions and moral or ethical dilemmas, as well as pragmatic issues of the organisational deontology. The vital problems of axiology and ethics of management science may be presented with the use of the following questions:

- What is the ideal of evaluative science and what is the ideal of science free of valuation in management?
- What values form the basis for an organisation and management?
- How can you ethically manage an organisation?
- What is the moral and ethical responsibility of managers, employees and other interested parties?

### **Fundamentalist vs. non-fundamentalist vision of management science**

The 20th century saw rapid development of the philosophy of science, which led to the creation of an alternative to the classical position, derived from the core of modern empirical sciences [Losee 1993]. Today, taking into consideration the experiences of the critical turning point in the philosophy of science, we can distinguish fundamentalist and non-fundamentalist epistemologies in the social sciences [Hempoliński 1991, pp. 71–74]. The cognitive problems of management science, placed on different levels, from the ontological, through epistemological to the methodological and axiological, can all be presented in the form of two opposing orientations: fundamentalist and non-fundamentalist.

The fundamentalist epistemology, stemming from the neopositivist philosophy, assumes that the subject and object of cognition are thoroughly independent and should be precisely defined within each discipline [Sułkowski 2004].

Thus, the subject of management science lies in unambiguously defined organisation and managerial processes. From the point of view of the non-fundamentalist epistemology, we can allow ambiguous and variable definitions of the study subject and object. Furthermore, there is no strict distinction between the subject and object of cognition, as they are both created within the cognitive relation. People are a part of an organisation and the process of management is shaped as a result of their interactions. The study process in the case of management is inevitably related to the interference in the examined reality and its changes [Hatch 2002, pp. 55–57]. The fundamentalist epistemology points to the possibility of achieving knowledge about reality that is free of assumptions and valuation [Pugh 1983, p. 47]. An organisation and management can be described with the use of a closed collection of cause and effect relationships, based on a direct empirical analysis, and are axiologically neutral. The non-fundamentalist epistemology rejects the possibility of achieving unmediated knowledge which is free of valuation. Modern science is based on a number of cultural assumptions, which does not necessarily mean acceptance of the position of radical cultural and cognitive relativism. Our cognition is accomplished with the use of biological structures of perception and understanding, as well as the lingual and cultural communication centres. We have no direct access to the examined world – our only accesses is mediated by our cognitive apparatus, language and culture. Learning is perceived not only as a cognitive undertaking but also a cultural process, which moves it away from the ideal of axiological neutrality. According to the non-fundamentalist approach, learning, just like every human activity, is based on both individual and collective values and interests. Examining an organisation and its management does not give reliable, timeless, universal and valuation-free knowledge. Quite the contrary, it is a pragmatic and situational knowledge that allows us to undertake activities in organisational and managerial processes. It is subject to the pressure of cultural relativism and entanglement in the values and interests of the community within which it is created and where it functions. Fundamentalist epistemology is based on classical understanding of truth and rationality, being the core of science. Truth is defined in correspondent categories, so in accordance with reality (a reflection of reality). The criteria of rationality are of a universal and indisputable character, and science is the embodiment of rationality [McMullin 1992, pp. 156–159]. A rational scientific method leads to an ideal – finding timeless, reliable and cumulatively developed knowledge. Also, in the case of management science understood as a fully rational undertaking, and based on epistemological fundamentalism, the most general theories and

methods of management should be permanent and reliable regardless of historical conditions. Moving to the non-fundamentalist position entails rejecting the understanding of the basic epistemic categories rooted in European culture, which bears new questions about unification of cultures [Sułkowski 2002]. From the non-fundamentalist perspective, truth is perceived in cohesive or pragmatic, rather than correspondent categories. 'True' means matching the existing system of knowledge, accepted by the community as true or being the basis for undertaking actions [Marković 1992, pp. 147–163]. Rationality is shaped culturally, socially and historically, and not only by the limitations of the human cognitive apparatus and access to information [Habermas 1992, pp. 78–104]. Cognition is conditioned by action, and learning is not a fully rational project, while from the angle of radical non-fundamentalism, it is irrational. Scientific knowledge is not universal but relativised and local. Management science is shaped by cultural and social factors. Approaches, problems, topics and methods are variable, accidental and subject to trends [Kliniewicz 2004, pp. 15–32]. Learning has an ideological and political overtone, it can lead to the legitimisation of control and the exercising of power, but it can also criticise social relations, aiming at the emancipation of marginalised social groups [Czarniawska-Joerges 1988]. Management science, being a cultural undertaking, does not reflect but shapes organisations, and the processes of managing them, which often escapes the determinist model of planning. The theories, methods and techniques of management are inevitably cultural and historical [Clegg 1990]. By definition, management science has blurred boundaries, does not have a scientific method guaranteeing reliable and timeless knowledge, and is both a cognitive and a pragmatic activity. It is often reflected in the definition, according to which management is both science and art [Mikołajczyk 2003]. Examples of fundamentalist epistemology can be praxeology and neoevolutionism, while examples of non-fundamentalist epistemology can be the interpretative and symbolic current, the critical current (radical structuralism) and postmodernist current. The key differences between fundamentalist and non-fundamentalist epistemology can be found in Table 1.

**Table 1. Fundamentalist and non-fundamentalist epistemology (the characteristics of the management science epistemology are in italics)**

<b>Criterion</b>	Fundamentalist epistemology	Non-fundamentalist epistemology
<b>The concept of the study subject</b>	The study subject is precisely determined by the nature of reality.  <i>An unambiguous definition of an organisation and management.</i>	The study subject is created during the interactions between the subject and the object.  <i>Ambiguous and variable definitions of an organisation and the subject of management.</i>
<b>The concept of the study object</b>	The object is independent of the subject.  <i>Management researcher can be an objective observer.</i>	The object and the subject are interdependent.  <i>Management researcher must interfere in the examined world.</i>
<b>Relations between the study subject and object</b>	The cognition subject gains direct, free of assumptions knowledge about the cognition object.	The cognition subject gains knowledge about the object, based on axiological assumptions and mediated by the language.
	<i>Organisation examination is the empirical cognition of universal cause and effect relationships.</i>	<i>Organisation examination is a process of axiological interference, providing situationally conditioned knowledge.</i>
<b>Understanding of truth</b>	Correspondent concept of truth.  <i>Management science reflects and describes a material or symbolic organisation.</i>	Non-correspondent concepts of truth (e.g. a cohesive concept).  <i>Management science not only reflects but also shapes an organisation and its management.</i>
<b>Understanding of rationality</b>	Universal criteria of rationality. <i>Management science is a rational undertaking, so it is also universal.</i>	Cultural criteria of rationality. <i>Management science is a cultural undertaking, so it is historically conditioned .</i>
<b>The issue of a scientific method</b>	Discovering reliable knowledge, verified by the use of rational research procedures.  <i>The most general theories and methods of management are permanent and reliable, regardless of historical conditions.</i>	Creating unreliable, historically conditioned knowledge by using heuristic procedures.  <i>Theories, methods and techniques of management are inevitably cultural and historical.</i>

<b>The issue of boundaries of a scientific discipline</b>	Demarcation of scientific disciplines is permanent and based on the boundaries within the examined reality.  <i>The study subject of management science is interdisciplinary but individual and constant (rooted in the reality).</i>	The boundaries between scientific disciplines are fluid, historically variable and socially constructed.  <i>The study subject of management science has fluid and variable boundaries, determined by a social agreement.</i>
<b>Relations between cognition and action</b>	The process of getting to know reality should be separate from the process of change.  <i>The cognition of an organisation and the process of management is the first stage; the second stage may be planning, and the third – implementation of changes.</i>	The processes of cognition and action are inseparable.  <i>Cognition is an interference in the functioning of an organisation, while changes enrich its cognition.</i>
Examples of cognitive perspectives	Praxeology Neoevolutionism	Interpretative and symbolic current Radical structuralism (critical current) Postmodernism

Source: own study.

## Conclusions

Management science may possibly develop in the direction of fundamentalist and non-fundamentalist epistemology. Fundamentalism remains a kind of unattainable ideal of objective cognition, while the non-fundamental categories are closer to the practice of management science, based as they are on intersubjective and situational cognition. It is important to make a distinction between radical and moderate approaches to epistemological fundamentalism.

Extreme fundamentalism is an orthodox neopositivist position, while radical non-fundamentalism can be identified with the postmodern and critical currents in the social sciences. Moderate fundamentalism and non-fundamentalism are not necessarily fully opposing and can be related to looking for the 'golden mean'.

It seems that management science needs a balance between cognitive fundamentalism and non-fundamentalism. On the one hand, our science does have cognitive and theoretical ambitions, so it is supposed to reflect reality (correspondent theory of truth) but on the other hand, it is a historical discipline, subject to the pressure of cultural relativism, far from the ideal of axiological neutrality and oriented mostly towards changing the existing organisational reality.

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