Opinion about the dissertation
INFORMATION AND ENTROPY: KNOWLEDGE STRUCTURES
IN THE AGE OF ARTIFICIAL INTELLIGENCE
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Andreas Chetkowskis dissertation, "Information and Entropy: Knowledge Structures in the Age of Artificial Intelligence", 176 pages, divided into three chapters, an introduction and a bibliography, is a compact unpretentious work of high informative value, but also with independent theses based on the author's conviction in the adequacy of the hermeneutic method for formation processing and its application in the use of AI (Artificial Intelligence).

Chapter One logically begins by examining the concept of information in all its facets, because this is paramount to understanding the possibilities and limits of AI. The author starts from the etymology of the word, which is seemingly redundant, but in fact - and this applies to the whole development of language marked by various changes in meaning, both of everyday words and of basic concepts - demonstrates the direction of scientific knowledge historically and in a purely cognitive perspective. In such a sense, information theory seems to be moving smoothly from the linguistic to the cybernetic aspect of information, but the search for a universally valid definition seems (as it happens with most general, bordering on one philosophical theory or another) doomed to failure. Therefore, A. Chetkowski goes through the many usages and selected theories for the term information emphasizing the line from Heinz von Foerster, through Niklas Luhmann to Karl Friedrich von Weizsäcker, linking in one way or another information with understanding, because this is the line leading to the adequacy of the application of the hermeneutic approach which considers subject and object as one in the information process.

Actually, the treatment of the concept of entropy, discussed in chapter two of the thesis, is directed towards the same conclusion. There, this concept is seen as closely related to information, one could even say as an aspect of information theory, which takes it out of its narrow use in thermodynamics and at the same time connects it to the social and moral problems arising from the penetration of AI into more and more areas of people's everyday lives. The very question of order and disorder in the context of the structuring of scientific

knowledge is in turn fundamental, as it leads to the philosophical problems surrounding the definition of what we call reality - one of the many intersections of physics and philosophy that in the age of AI takes on a new context, no less important for our understanding of the world.

In the third chapter, "Information Processing," A. Chetkowski traces the philosophical roots of the so-called "rational method" of cognition, which is usually associated with the categorical separation of subject and object in the process of cognition, characteristic of Enlightenment thinkers and in particular of the philosophy of René Descartes. Based on such a method, according to Heidegger, is modern science, which relies on developed technologies. However, if this "principium rationis" dominates the human imagination, it constrains it and deprives it of an authentic creative range, and, entering the human sciences, it introduces the claim of accuracy and objectivity at the expense of originality of thought. Here, in bringing up Heidegger's theses and Husserl's critique of this approach, I would advise the PhD student to discuss Heidegger's aesthetic writings in some detail. This would not weigh heavily on the thesis, for they are not voluminous and, in the light of Heidegger's overall oeuvre, are remarkably comprehensible, but it seems to me that in this way the grounds of the critique of the rational method from a phenomenological position will become clearer. The relation of this critique to Dilthey's hermeneutic approach, something Chekowski intuitively grasps

but does not advance as a thesis, will also become apparent. It would not be a bad thing, if he intends to develop this thesis into a monograph, to do so, since the grounds for proposing Dilthey's thesis of the interdependence of object and subject would then also stand out in the light of an understanding of spirit as contextual and historically determined as an alternative to the rationalist dualistic divide imposed by New Age philosophy in both ontology and epistemology. Moreover, it would also be a counterpoint to the understanding of information as a product of the object-subject relation in Marxist materialist terms, linked to the conception of consciousness as a relational property rather than as a manifestation of some spiritual substance. (One might also trace here, as it were, a certain phenomenological orientation of Marx's thinking, but this question, goes far beyond the immediate tasks of this dissertation and must be left to Marxologists.)

These are, however, hints in the direction of a philosophical deepening of the text, with a view to its eventual printing, but also for the sake of clarifying certain statements of the author that seem to me controversial. For example, the thesis that the distinction between false and true information is not a fundamental issue because of the dependence of language on context

and the consequent subjective relativization of meaning. The argument for such a thesis could be developed in more detail on the basis of the phenomenological tradition. The proposed three privately scientific conceptions of information as communication, even when supplemented with the pragmatist approach of Charles Pearce, while providing a justification for turning to Dilthey's hermeneutics, do not in any way indicate how, without a distinction of truth, the application of information from AI technologies to scientific knowledge would be possible. This question, in fact, remains open in the context of Dilthey's interpretation of knowledge: is reference to the external world based on the temporal and social characteristic of human memory (as opposed to a computer-stored database) sufficient to objectify our knowledge?

These are some of the philosophical questions this dissertation poses. Naturally, it would be naive to expect a single comprehensive answer, but I would prefer that the discussion of them had been more philosophical and less technological. Nevertheless, and in its present format, this dissertation fully meets the academic requirements. Clearly and concisely written, it demonstrates its author's broad culture and analytical ability, and I consider it a successfully completed project.

The bibliography is relevant and comprehensive. The publications are sufficient for the requirements; the abstract presents the entire dissertation well. The listed contributions are adequate.

Therefore, I am convinced that, on the basis of the dissertation "Information and Entropy: Knowledge Structures in the Age of Artificial Intelligence", the degree of Doctor of Education and Science should be awarded to Andreas Chetkowski and I invite the esteemed jury to do so.

I declare that I have no joint publications with the doctoral candidate, nor any other common professional interests.

Pravda Spasova