

OPINION
for dissertation
for awarding the educational and scientific degree "**doctor**"
in Professional Area 2.3. Philosophy/Philosophy taught in English
titled "**Information and Entropy: Structures of Knowledge in the Age of
Artificial Intelligence**"
of PhD student **Andreas Stefan Chetkovski**,
with scientific supervisor Assoc. Prof. **Rosen Rusev**
by Prof. **Daniela Sotirova**, PhD, member of the Scientific Jury,
prepared the opinion according to a decision of the Faculty Council
of the Faculty of Philosophy at the University of St. Kl. Ohridski dated 02.07.2024/ No. 13

At the first remote meeting of the Scientific Jury on 15.07.2024 it was decided to prepare one of the opinions, and on 17.07. I received the dissertation, the abstract and other documents related to the procedure. I understood that **the author**, Andreas Chetkovski, holds an MA in German Philology and Economics from the Technical University of Berlin, specializing in the history of economic thought, political economy and literature of the 19th and 20th centuries. I do not know the doctoral candidate personally, but from the presented documentation I can see that the colleague is widely educated in linguistics and socio-humanities and has diverse professional experience (he lived in Australia, taught Polish in various places, and from 2016 to 2022 he was a lecturer at Veliko Tarnovo University).

The title of the dissertation is broad, if not "ecumenical" in scope. It could not be argued that it is innovative or undeveloped - the relationship between information and entropy has long been intriguing to the philosophical perspective and has been examined through various prisms for decades. Karel Čapek, who introduced the word *robot*, rightly called the term *entropy* a "strange word".¹ In the present dissertation, connections between its meaning and information are sought, i.e. between phenomena that determined almost a century of development both in the „pure” science and technologies, as well as in the humanities and in the new array of knowledge about artificial intelligence. Such a thesis title is ambitious and intriguing in itself.

¹ Quote in: Volkenshtein, M. V., Shenitzer, A., Burns, R. (2009). Entropy and information. Publisher Basel, Boston: Birkhauser. I also read there that the main author of the above work, M. V. Volkenstein (1912-1992), wrote a book entitled "Information and Entropy" in the years 1933-48, formulating the problematic circle between information, entropy and life.

The structure of the work is extremely simplified – three chapters with short titles are separated, successively addressing the three questions - what is information, entropy and information processing. The text is 176 pages long, including the bibliography. The submitted dissertation is written in English.

As a content and used language, the doctoral student reveals meanings of everyday and/or specific research terms and phrases such as "message", "semantic and pragmatic level", as well as those that are less frequently seen such as "innovative value" or "value of surprise" when informed, and they are related to the statistical level, i.e. – i.e., there is a „probability of occurrence“ here. Information theory in the text is juxtaposed with mathematical probability theory, and exactly in this perspective information is related to entropy. It is obvious the complexity of the multi-faceted problems that the doctoral student has tackled in his work.

The topic is undoubtedly complex and requires knowledge in various fields, and it gives opportunities, but also contains risks and inflated claims to proposed philosophical interpretations and/or preferred points of view. Among the many perspectives for analysis, the doctoral student chooses interpretation through the philosophical psychology of Wilhelm Dilthey (1833-1911), a representative of the so-called old hermeneutics. The interest in historicity is decisive for this intellectual tradition, as well as the methodological distinction between explanation and understanding, typical for natural science and the humanitarian knowledge, respectively.

The chosen research focus of A. Chetkowski is intriguing due to the analysis of the debates on information processing and entropy, i.e. **the classical hermeneutic approach**, rather than (for example) the context of a philosophy of science, a methodology of scientific knowledge, or conceptual stress on techno-communicative aspects of digital transformations. The PhD candidate has revealed the merits of the German psychologist and cultural historian's holistic approach as an alternative to "mathematical rationalism" and the acceptance of some "reduced conception" of subject and object as "units of measurement". Meaning and making sense in communication process are important for such approach. Let us recall that Hermes, the deity who gave his name to the field of hermeneutics, who was responsible for the transmission of messages between men and Gods, where messages and responses had to be interpreted and explained in some way.

In V. Dilthey's hermeneutic concept of consciousness, **self-referencing** is important, as the doctoral student points out. Self-referentiality denotes a simple statement of the type of liar's phrase "This sentence is not true." But in A. Chetkovski's dissertation, the concept of self-referencing is used in a broader context. It denotes living **in a world of copying ourselves**. Exploring self-referentiality in a philosophical perspective is an interesting focus of this dissertation. Self-referencing is of special interest in relation to analysis of language and consciousness, as well as

in many specific fields - for example, in the academic growth of lecturers in scientific communities, in the context of the management and self-management of organizations, or in the perspective of pluralism of our social roles.

The abstract of the presented dissertation is 42 pages long and offers an adequate summary of the main parts and ideas. To it are added **five main points of contribution**, which summarize reliably, even though broadly (especially in the first contribution) or vaguely formulated research results of the stated large topic. It would be possible to formulate all five contribution points a bit more precisely, as it was done for contribution No No 2 and 5.

The bibliography contains over 140 sources in German, English and French languages, to which the doctoral student has also included his publications². On the topic of the dissertation, A. Chetkovski has **three publications**, one in English and two in German, the second of which is still in print. The three texts have been published in Bulgarian university editions - of the University of Plovdiv, in the Publishing House of the University of Shumen, and the last article is about to be published in the magazine³.

I would like **to ask** the doctoral student about the so-called *weak artificial intelligence* (AI) that demonstrates a "brighter spectrum of application of intelligent thought and action": what are the arguments for the opinion that this weak AI can outsmart us (or surpass us).

In conclusion, I will emphasize that the presented work is a testimony to the knowledge of complex ideas on the extremely broad interdisciplinary topic of information and entropy in the age of artificial intelligence. The text presented contains the necessary argumentation and completeness as a doctoral dissertation in philosophy. **I support the awarding of the educational and scientific degree of doctor to Mr. Andreas Stefan Chetkovski.**

27.09. 2024

/Prof. Dr. Daniela Sotirova/

² The bibliography has also been added to the Author's Abstract on pp. 40-53.

³ "Germanistics and Scandinavian Studies" (ISSN: 2815-2867) is a national electronic academic journal with open access and double anonymous peer review, published by Publishing House of the University "St. Kliment Ohridski", but the issue indicated (No 1/2024) is not yet out of print.