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**Peer review of dissertaion of**

**Andreas Nanos, LL.M.**

**„Comparative Analysis of Criminal Liability of Autonomous Driving and Strong Artificial Intelligence“**

By the decision of the commission for the defense of the dissertation of Andreas Nanos, I was appointed an opponent of the dissertation entitled "Comparative Analysis of Criminal Liability of Autonomous Driving and Strong Artificial Intelligence".

*To the topic of dissertation*

Autonomous vehicles and artificial intelligence undoubtedly represent the modern phenomena of today. This is another part of the story in which technical development outpaces legal regulation, so it is necessary to quickly find a legal solution to situations associated with inventions, which until recently had their place mainly in the pages of science fiction literature. The issue of the conditions of criminal liability arising in connection with the activity of autonomous vehicles and artificial intelligence has recently received special attention, whether on the pages of professional literature or at professional conferences. There is no doubt that the topic that Andreas Nanos has chosen for his dissertation is among the most current, interesting and also the most difficult.

*Structure of dissertation*

The dissertation is divided into ten chapters, an introduction and a conclusion. The first four chapters are mostly terminological, non-legal and technical in nature. In them, the author defines the basic terms, the typology of artificial intelligence and robots, and the technical nature of artificial intelligence and related matters. Legal considerations start from the fifth chapter, where the author offers the historical-legal background of the given issue. Chapter six deals with the application of product liability principles to cases related to artificial intelligence, including criminal law principles. In the seventh chapter we find partial conclusions.

Chapter eight can be somewhat controversial, in which the author considers the defendant as an alternative legal entity, specifically, in particular, the possibilities of applying criminal liability to an electronic entity. The ninth chapter of the dissertation can be considered key, in

which the author analyzes individual possible models of criminal responsibility. The work is completed by the tenth chapter discussing the possible responsibility of robots.

I consider this work structure correct in principle and I have no serious comments about it.

### *Content quality*

In terms of content, I rate the work very positively. Within the chosen topic, the author devoted himself to all the essential questions, which he analyzed in detail. At the same time, he did not avoid controversial issues, among which considerations of the possible criminal liability of artificial entities can be included. At the same time, he derived these considerations from the stable doctrinal principles of criminal responsibility.

We can find similar considerations in the eighth chapter. As already mentioned, in this chapter the author discusses the possibilities of applying criminal liability towards an electronic entity. These are undoubtedly very interesting considerations, which the author supports with knowledge from the field of legal philosophy. Personally, however, I cannot avoid the impression that in this context the author is to a certain extent avoiding the question of the meaning of criminal (or other) liability of robots, or other electronic entity. This problem is related to the fact that the author already admits in the introduction that in his dissertation he does not solve the question of punishing intelligent systems, or he even claims that this question goes far beyond the competence of legal studies. On pages 90 and 91, although he briefly comments on this question, it is really just a brief consideration.

However, I believe that considerations about the possible (criminal) liability of electronic entities should not bypass the issue of possible sanctioning of such "entities", since the application of criminal liability does not make sense in itself. This meaning is only fulfilled by the imposition of a penalty or other type of sanction. And since the key feature of the punishment is the infliction of certain harm (which can be achieved without any problem in the case of perpetrators-natural persons, but also in the case of legal entities), the question arises whether it is at all conceivable (in the current state of knowledge) that an electronic entity perceives something as harm.

In connection with the key ninth chapter, in which the author discusses the very essence of the topic of his work, i.e. possible models of criminal responsibility, it should first be stated that this chapter appears somewhat unclear to a certain extent. Up to this point in his work, the author has mainly dealt with the criminal legal context of the activity of artificial intelligence, after which in the ninth chapter he first returns to automated management systems, which (perhaps in my ignorance) I perceive as devices that are one degree "stupid" than devices based on "real" artificial intelligence, with which - at least on a theoretical level - it is even possible to consider its own criminal responsibility (which I cannot imagine in the case of autonomous driving of vehicles, at least in certain types of what is referred to as an autonomous driving system).

Otherwise, however, I consider the analyzes offered in the ninth chapter to be of high quality, sophisticated and interesting. In these parts of his work, the author testifies that he is no stranger to "classical" criminal law considerations based on deep knowledge of the principles

of criminal law applied to a phenomenon for which the criminal law solution is still uncertain. In this part of the work, the author rightly emphasized the issues related to culpability, as they must play a key role in solving criminally relevant incidents related to autonomous vehicles or other types of artificial intelligence. I therefore consider the part of the work on p. 68 and the following to be essential and very well done.

In the final tenth chapter, the author returns to the most daring idea associated with the given topic of the work, namely the possible criminal liability of robots. I must admit that I have not yet come across such an elaborate analysis of this modern issue. Personally, I highly appreciate that the author makes these truly visionary considerations in close connection with the existing and long-recognized principles of criminal law. As part of these analyses, the author thus demonstrates high-quality knowledge of the essence of the principles of criminal responsibility, excellent orientation about the current and real future state and development of artificial intelligence, and especially the ability of independent, modern and unconventional criminal law thinking.

I can't say that I agree with all the considerations and the conclusions drawn from them. In his reflections, the author repeatedly compares the idea of criminal liability of robots with the criminal liability of legal entities. However, I believe that in this context he overlooks the essential differences between legal entities and robots. Legal entities are traditionally perceived as subjects of law that act in their own interest. In the case of robots, we can imagine this element only if we think about robots in Karel Čapek, Philip K. Dick or Isaac Asimov's spirit. As appealing as this idea is, I consider it (in the context of the search for a criminal law solution) somewhat premature for the time being.

However, it does not change the fact that the author's analyzes represent, in my opinion, an excellent basis for further discussion.

#### *Formal quality*

From a formal point of view, I cannot fault the assessed dissertation, as it meets all the requirements that are expected in this direction from a scientific publication of this type. The work also achieves high quality in terms of stylistics and literature.

#### **Final conclusion**

Based on the above, I can state that the assessed dissertation of Andreas Nanos reaches an excellent level. I give it a high scientific value and its results represent an excellent basis for further discussions related to the given topic.

**Therefore, without any doubts, I recommend the dissertation for defense.**

#### *Questions for discussion*

- What parallels and what differences can be identified in the concept of criminal liability of legal entities and possible criminal liability of robots?

- Can the meaning of the possible criminal responsibility of robots be found in terms of their sanctioning?

In Olomouc, December 20th, 2023

doc. JUDr. Filip Ščerba, Ph.D.