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THE BIONIC TURN IN LEGAL EPISTEMOLOGY: SOME REMARKS ON THE FUSION OF LAW AND CYBERNETICS, LEGAL INFORMATION AND DATA, SOURCES OF LAW AND HYBRID INTELLIGENCE

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Abstract: *The paper addresses how technology, legal informatics, and legal cybernetics can transform the traditional understanding and structure of sources of law. The author wonders whether AI-generated outputs, such as texts, analyses, or decision-making recommendations, can be perceived as a new type of legal normativity. The central concept is the bionic lawyer figure – a person equipped with a digital interface or augmented rationality who acts as an intermediate link between the traditional legal system and technological outputs. The paper also examines the philosophical, theoretical, and epistemological features that led to the synthesis of law, cybernetics, and informatics. The author argues that in a particular situation, advanced legal analytical tools (equipped with machine learning and natural language processing) and data-driven law can acquire the status of a factual source of law, thus creating a hybrid model of new legal ontology concerning a broad spectrum of legal information and legal data.*

Key words: *Law and Technology; Sources of Law; Bionic Lawyer; Legal Consciousness; Posthuman Law*

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1. INTRODUCTION

As a normative system, law has been shaped exclusively by human rationality and social context for centuries. However, with the advent of artificial intelligence (AI), the question arises as to whether and how AI can interfere with the essence of law and what philosophical and theoretical challenges its application in law may entail. The development of advanced legal analytical tools utilising the potential of AI brings opportunities to accelerate, streamline, and enhance the quality of work in legal professions or even improve the functioning of the entire legal system. By advanced legal analytical tools, we refer to software and hardware solutions that harness the potential of machine learning (ML) and natural language processing (NLP). These technologies generate texts used by judges, lawyers, or public administration, representing a new stage of knowledge, analysis, prediction, creation, interpretation, and application of law.

Why are the discussion and use of technology in law currently increasing? This is not only a practical question, but also a philosophical one. It presents posthumanist starting points and a posthumanist approach to law. The purpose of the paper is to examine the thesis that the increasing quantity of data, the reliability of its processing, and the availability of these data change the current knowledge and perception of law. This paper aims to do more than describe relevant concepts; it advocates for a hybrid

model of legal epistemology. In this model, the law functions as both a normative and an informational system, incorporating psychological and sociological aspects. It is increasingly co-created by technologies in a posthumanist way. The paper specifically explores how cutting-edge legal analytical tools that incorporate MP and NLP, together with data-driven technology, can become recognised as a factual legal source, thus forming a hybrid model for a new legal ontology.

The paper examines the historical, current, philosophical, and theoretical conditions under which the outputs of advanced legal analytical tools can be understood as legally relevant or as a source of law. It predominantly utilises cybernetics as an integrative transdisciplinary framework. Through a synthesis of philosophical-theoretical analysis and a descriptive methodology, it examines the historical and posthumanist contexts of the convergence of legal systems and technological advancements.

This paper pursues three main research questions: How does the application of cybernetics contribute to understanding law as a system of information and control? If so, can the increasing amount of information and data become recognised as a new source of law, either formally or factually? Are advanced legal analytical tools and AI-based legal systems just pragmatic tools to foster efficiency? Or do the ongoing technological shifts reshape legal consciousness and the identity of the lawyer?

However, to what extent such technologies can affect a lawyer's professional consciousness and, consequently, the solutions to legal problems he or she encounters is still questionable. In this sense, the presented paper will also focus on the assumptions that led to the current discussion on the direct interaction of machine reasoning with human reasoning at the interface of law. To this end, we will examine the nature of cybernetics as a science, the application of cybernetics in the field of law, and the approach to law as a regulative (cybernetic) system and a system of information. Cybernetics can represent a unifying method for collecting and evaluating diverse information, as we will present in the first part of the paper.

The paper is structured into several interconnected parts. First, we will provide a general introduction to cybernetics and its potential (Part 1.), in order to outline the conceptual tools needed for analysing law as a systemic phenomenon (Part 2.). On this basis, we will turn to the idea of law as a system of information and highlight the central role of legal information in sustaining law's regulatory function (Part 3.). This perspective then allows us to approach law as a historical data set ready to be analysed, where legal norms, institutional practices, and social contexts can be studied as layers of legally relevant data (Part 4.). Finally, we will address how the technological transformation of law reshapes legal consciousness and the very identity of the lawyer, introducing the notion of a "bionic lawyer" as a hybrid human–machine actor. At the same time, we will examine in more detail whether the application of advanced legal analytical tools and AI has yet influenced the philosophical and theoretical setting of the legal consciousness (Part 5.).

The paper situates this analysis within the broader conditions of posthumanist philosophy and society, which form the conceptual background for rethinking both law and technology. We will examine the cultural and philosophical implications arising from the synthesis of biological and mathematical neural networks within the legal domain.

2. A GENERAL INTRODUCTION TO CYBERNETICS AND ITS POTENTIAL

Originally, the field of cybernetics, founded by Norbert Wiener, focused mainly on the science of information management (Wiener, 1962, p. 11). Wiener recognised that information serves as the fundamental building block (Polčák et al., 2018, pp. 9-10).

However, even before that, in 1843, the French physicist and mathematician André-Marie Ampère mentioned cybernetics as an independent (political) science. The object of its interest was to be "the art of governing in general" or of making correct political decisions (see Ampère, 1843, pp. 140-142). Thus, Ampère relied on procedures that can be scientifically discovered and will make the right decisions. In the current vocabulary, it can be said that such a flow and sorting of information will lead to the right choices. Although Ampère's definition of cybernetics did not catch on during the 19th century, he understood the need for proper decision-making. Of course, Ampère's observation is significant from another point of view and acquires its significance in the similarities that the German-Czech political scientist Karl W. Deutsch later introduced. In addition, Deutsch was influenced by Wiener's conception of cybernetics, which he applied to the function of communication in politics and society. Moreover, he concluded that politics is not only a question of power but also a question of communication, i.e., the sharing of information. The intersection between communication and information thus necessarily results in the issue of decision-making and control (Říchová, 2014, pp. 84-85). In this sense, Deutsch writes about the political system as the control of society through communication. In other words, politics is the steering of society through communication (Deutsch, 1963, p. 191). Politics thus becomes a whole network of channels through which information is disseminated. According to Deutsch, politics is the process of managing society through processing information, feedback, and communication, similar to how the nervous system works in the body (see Deutsch, 1963, pp. 182-199).

However, the parallel with the nervous system in the body is not accidental. The driving force behind the initial development of cybernetics was the hope that it could discover some of the control and communication processes in living organisms and then apply them to machines and technologies (see, e.g., Heylighen and Joslyn, 2001). In this regard, the general subject of cybernetics is processes and control in technical facilities, animals, and human organisations (Rozental' et al., 1974, p. 274). Cybernetics thus tries to reconcile three types of modern worldviews: non-living sciences, living sciences, and social sciences (Fedorov, 2016, pp. 2-3).

Wiener assumed that feedback stands at the centre of cybernetics and is crucial for biological-individual and social-collective life (see, e.g., Hoefnagel, 1971). For Wiener, feedback is the basic principle of system control and regulation, which allows biological and technical systems to modify their behaviour based on information about the outcome of their activities. He argued that properly used feedback will enable systems to learn, adapt, and achieve goals. Thus, cybernetics, in this sense, deals with the process of communication and regulation, and therefore, its essential parts are information theory and control theory (Zimmermann, 1983, p. 315).

In connection with the above, we would like to give one example of the human body and the regulation of its body temperature. The temperature naturally rises if the human body overheats due to excessive movement. The organism reacts to this fact by sweating. Sweating cools the body, but not to the point where it starts to shiver from the cold. The nervous system tries to prevent the moment of overheating of the body and hypothermia, thanks to the feedback it receives in the form of outputs, and responds appropriately to them with its responses as inputs. The human body forms a specific system here. Based on feedback, this system's essence is the ability to self-regulate, i.e., to achieve stability and adapt without external intervention. Wiener also wrote about applying the concept of homeostasis to both technical and social systems for self-regulation through internal mechanisms that keep the system's state within the required limits (see Wiener, 1962, pp. 114-115). In addition, systems are supposed to become

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adaptive because they learn to improve their behaviour over changing conditions and time.

Cybernetics is, in a sense, the science of systems or how systems use information, models, and control actions to move toward an optimal goal (see, e.g., Siddique et al., 2011, p. 109). This also reveals the universality of cybernetics because the knowledge of these principles can be applied to any area in which we encounter systems. Cybernetics was already planned as an interdisciplinary approach at its birth (see Love, 2023, p. 6). It can also be viewed as a multidisciplinary approach integrating insights from various scientific fields, providing new understanding of reality (see Alvarez and Ramírez-Correa, 2023; Medvedeva and Umpleby, 2024). Cybernetics is also described as a transdisciplinary field that develops a shared language and discourse essential for comprehension among various scientific areas (see François, 2006; Chapman, 2019). In this sense, cybernetics brings together different areas of knowledge and creates a common framework for solving complex problems. Cybernetics is thought to apply to any system, no matter its origin. But this does not mean that cybernetics approaches every system equally without considering their particularities. Not all systems are of the same nature. Biological regulation, such as human thermoregulation, operates on fundamentally different grounds than social or legal systems. If cybernetics is applied across such diverse domains, it must account for these ontological differences and find process analogies rather than assume a perfect analogy (see Skansi and Šekrst, 2021, p. 465).

From the above, it follows that cybernetics is more than just a precisely separated science of systems. It can be considered an attitude or an insight into life, as the first founders of cybernetics thought about it. We can speak of it as a meta-discipline that brings new knowledge through synthesising knowledge from various scientific disciplines (see Scott, 2001, p. 412). It can even be understood as a particular philosophy (see Glanville, 2013, p. 47). The characteristics of cybernetics suggest it is a fitting framework for examining today's information age. This era is marked not only by swift technological advancements and their applications but also by intricate issues like economic and social disparities, climate change, the ecological crisis, and challenges related to social stability. All these complex problems (the so-called wicked problems) and, in particular, their solutions may be, or are already, the subject of cybernetic considerations. Cybernetics can be a tool for understanding and solving systemic problems of postmodern and posthuman challenges that bring complex, dynamic, and interconnected social problems.

Solutions to today's complex problems are also expected to be solved legally. This raises the question of whether the availability of extensive information, along with analysis via AI, ML, and NLP, and the use of cybernetics can transform law as a social phenomenon and philosophical concept. Simultaneously, it can also alter the practical aspects of legal systems through legislation, interpretation, implementation, and application of law.

3. SYNTHESIS OF LAW, CYBERNETICS, SYSTEM, AND CONTROL

What can bring law and cybernetics closer together? The answer to this question is unclear, but it can be found in a few basic concepts common to both areas. These are mainly concepts such as system, control, information, and feedback. These concepts create a possible contact point between legal theory and cybernetic reasoning – they suggest that law can be understood as a system of control of social processes in which information and feedback are of fundamental importance.

While the focus of law may not be systems, one could argue that law itself functions as a particular system characterised by internal consistency, stability, and dynamism (see, e.g., Bröstl et al., 2013, pp. 31 et seq.). Considering law as a system involves seeing it as more than a sum of disorganised legal norms (Ottová, 2002, pp. 117-118). The understanding of law as a system presupposes assigning features, criteria, and standards applicable to all systems, especially if we are to talk about the interdependence of the system as a whole and its elements.

An important moment in all systems is the interconnectedness of its elements, i.e., the relationships between the elements of the system that make up its structure as a whole (Bárány, 2021, p. 23). All this presupposes that a systemic approach can be applied to the law (Večeřa et al., 2013, p. 143).

However, law cannot be understood only as a formal system limited to a certain hierarchy of sources of law according to legal force. This includes all elements that constitute state governance and other public entities involved in lawmaking and enforcement of law (Prusák, 2023, p. 441). In this sense, we speak of a legal order that, in addition to the formal aspect of positive law, captures public authorities' wider existence and activity. In classical legal theory, Kelsen's Pure Theory of Law defines law as a hierarchical normative system. Kelsen deliberately excludes sociological criteria, treating law as a normative system grounded in validity rather than social facts (see, e.g. Kelsen, 2005, pp. 193 et seq.). He allows only minimal reference to social reality through the requirement of effectiveness, but otherwise excludes morality, politics, and sociology. In contrast, Ota Weinberger's (neo)institutional theory emphasises that law cannot be understood without its institutional and social dimensions, arguing that legal norms are embedded in and gain meaning from the broader framework of social practices and institutions (see Weinberger, 2010, pp. 43-45, 318).

So here we come to the idea that the concept of a system of law has a much broader meaning if we consider its social aspect. Therefore, law can be understood as a social system or, specifically, a system of social norms. In this sense, law is a fundamental social mechanism (Přibráň, 1996, p. 16). Law as a social system undertakes to set the boundaries of the social world, co-creates the reality of everyday life, creates social structures, etc. (Večeřa and Urbanová, 2006, pp. 84-85). In this way, law operates alongside other factors of social life, such as morality, customs, traditions, ethics, aesthetics, economics, politics, religion, and others. The problem is further complicated because society itself can be regarded as a highly complex system in which various social phenomena and processes operate (see Bakošová and Vaculíková, 2006, pp. 47-51). Now we can discuss law as a system in a broader sense and understand its historical essence, how it can be influenced by other normative systems (e.g., morality, ethics, traditions) and also influence them. The question of whether law is a closed system that "codes" everything according to its own nature and principles (see Luhmann, 2004) or an open system that uses politics, morality, tradition, economics, and more for its own efficiency (see Pound, 1910; Unger, 1986) is complex, and jurisprudence does not provide a clear answer.

It can be noted that the law is not only a system but also fulfils a regulatory function and controls society. This function consolidates and stabilises social relations by imposing obligations and entitlements on citizens and institutions (Fábry et al., 2018, p. 179). Following this, Knapp says that the law hypostasises in society, thus gaining its existence and acting on society as a control mechanism (Knapp, 1995, p. 40). The law itself is the systematic activity that controls society. In other words, law as a social system is undoubtedly a system of control in which the regulatory function is linked to the normative function. The actual object of this normative function is to determine what

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behaviour or state is commanded, prohibited, or allowed. Thus, law is also a system that can provide feedback from the rulers to the ruled, and if we are to speak of a rule of law, then the opposite should also apply.

In summary, it can be argued that a cybernetic approach to law as a system must necessarily consider this broader historical, normative, and social context. The social impacts that law has send feedback and serve as an assessment of the desired effect or achievement of desired goals in social conditions. This entire process assumes the transfer of information because of the effective management of the law.

4. LAW AS A SYSTEM OF INFORMATION AND THE IMPORTANCE OF LEGAL INFORMATION

It is interesting to consider that law can be viewed as a system of information (Hildebrandt, 2016). In this sense, law is a system of information that can be stored, altered, processed, or analysed by various methods. In this sense, we are talking about legal information.

The classic of Czechoslovak jurisprudence and legal theorist Viktor Knapp defined legal information as information about law. However, such a definition may be too general. Therefore, Knapp distinguished: first, legal information about a legal norm, and second, legal information, which is information about a legal norm as conveyed through decisions by public authorities, legal literature, and related sources. Nevertheless, legal norm remains the centre of legal information. The broader interpretation of legal information might also include, for instance, data regarding the existence and content of a legal norm (Knapp, 1995, p. 223).[1]

According to Mireille Hildebrandt, legal information derives from sources of law, while it is inseparably linked to knowledge of law. According to her, legal information is inextricably linked to the knowledge of the legal consequences of an action (Hildebrandt, 2018, p. 19).

To claim that the law is a system of information does not remain without further theoretical and practical consequences. Law is in the information age, and other information systems operate alongside it. Understanding law through the prism of information means clarifying its informational nature and understanding how it interacts with other information systems (Lee, 2017, p. 324). Law may be interconnected by other social systems of information, such as morality, ethics, and other cultural aspects and regulative factors of society.

The core idea behind using technology in law is recognising that legal information is also digital. Like any digital information, law is expressed here by a binary of zeros and ones stored in computer memory, drives, databases, etc., being processed. However, quite naturally, this is a technical issue, but it does not exhaust the proper purpose of the law. Evidently, the law predates current digital technologies and was not developed solely for digital processing technologies. Legal information can be understood primarily as semantic information intended to have a recognisable sense for officials, lawyers, and citizens. Law regulates and standardises specific behaviour in the legal sense, and acts informatively or preventively for this purpose. In cases of violation, sanctions will be

[1] Knapp further distinguished three levels of legal information: The first level is the indicative level of legal information, representing the identification number of the relevant legal regulation, such as the number, year of issue, and title of the legal regulation. The second level is the reproducible level of legal information, which consists of the possibility of extending the text of a legal norm to a computer monitor. Finally, according to Knapp, the third, i.e., deductive level, has the highest utility value. This legal information is gathered using an AI (Knapp, 1995, p. 224).

imposed. In this regard, Mireille Hildebrandt recalls that law can be considered as a system of information in a dual sense (Hildebrandt, 2016, p. 21 et seq.): first, the law stores and provides information about the consequences of our behaviour (external view of the law); and second, the law influences our interactions (the internal view of the law). In both cases, the law is a normative matter. Although the law is processed by technical means, its technical side remains hidden, i.e., not relevant to the goals.

Therefore, the law as an information or information system must be distinguished from the law as a computation and algorithm (Hildebrandt, 2018, p. 28). In that regard, we speak of computational law. Computing law is an aspect of law adapted for machine processing through a computer, often automatically and without human intervention. In other words, it is the machine-readable law done by digital computers. Here, the law is expressed in binary data and works through algorithms. Through the prism of computing law, law can also be defined as a system of algorithms adapted for computer processing. However, the question is, what place will these algorithms have in law, and, thus, how will the legal philosophy and theory of law evaluate them? If this question is to be answered, it is necessary to consider the factual scope and the methods of applying the law through technology. A law primarily driven by technology, or mainly applied through technological means, will see these algorithms fully integrated into the legal framework and even into the historical nature of law. This could be an important shift from the mere technological aspect of law to technological law.

Of course, all these ideas would not have begun if an approach to law that considers its informational value did not exist. In this context, Knapp discusses the field of legal informatics, with legal information serving as its primary focus. Simultaneously, he is regarded as a pioneer in viewing law as an information system, particularly in legal information systems (see Cvrček, 2013) and in the use of cybernetics within law (see, e.g., Polčák, 2013). At the time in the Eastern Bloc, when and where Knapp lived and worked, cybernetics was initially considered a bourgeois pseudoscience, which brought the threat of sharpening the exploitation of workers. Gradually, however, there was a very mild and cautious weakening of this attitude in law, as evidenced by experiments during the 1960s and 1970s in the Soviet Union (see Kerimov, 1963; Shliakov, 1976) or during the 1970s in Hungary regarding the court decisions (see Bárdos and Bárdos, 1974). Likewise, in the Eastern Bloc, Franciszek Studnicki pioneered research in Poland on the application of cybernetics and informatics to law (see Studnicki, 1969). All this led to the emergence of a new science during the 1960s, which can be named legal cybernetics (Ilková and Ilka, 2016, p. 329).

Following this, two meanings of cyber law come to the surface. Cyber law can be understood as a law that focuses on regulating the digital world as part of its purpose. Thus, in this respect, law will be a set of norms that control or regulate cyberspace (see, e.g., Tsymbalyuk, 2024). At the same time, however, cyber law can be understood as the application of cyber analyses to the law in a broader scope, as a result of which legal relationships begin to be modelled, shaped, and finally controlled by the application of cybernetics (see, e.g., Purge, 2023). More precisely, the principles of control according to cybernetics are applied to law. In theory, the jurisprudence would undergo reconstruction according to basic cybernetics standards, transforming it into legal cybernetics. The results from this process should be utilised within a practical, real-life legal framework, leading to the emergence and application of cybernetic law.

However, such an approach to law is not a new idea. In connection with this, the contribution of Viktor Knapp can be mentioned again. Knapp focused primarily on the theoretical side, or at least some theoretical and methodological aspects of the application of cybernetics in the state and law. He distinguished between the use of

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cybernetic methods for scientific examination of the law and the use of cybernetic methods in human activities (Cvrček, 2013, p. 1220). He evaluated the importance of cybernetics in connection with other sciences. This connection not only shows the limits of the application of cybernetic methods (i.e., their (in)appropriateness for a specific scientific field) but also adapts cybernetic methods (Knapp, 1963, p. 15). Despite the theoretical and scientific nature of Knapp's research, his motivation was the potential for the social applicability of cybernetics (Knapp, 1963, p. 7), i.e., to address the question of how and in what specific ways cybernetic methods can help improve the control/administration of society by law.

So, what is the explanation for the application of cybernetics in the state and law? The answer is information. In this context, Knapp appreciated when the law-making resulted from scientifically collected, verified, and accurate information. However, this does not exhaust the value of information for the law because information on the social impact of legal norms is important and must also be added (Knapp, 1963, pp. 12-13). In this regard, feedback will lead to additional potential changes in the legal regulation. Therefore, Knapp said that within the framework of legal regulation, feedback is important, which consists of ensuring that the controlling entity is constantly informed about the real-life effects of specific legal regulation. This means that the legislator should be constantly informed about how the legal norm operates in society. If a legal norm is not effective, the legislator should react appropriately to the correction of the relevant legislation (Knapp, 1995, p. 40). In this example, it is possible to explore how Knapp briefly described the self-regulation of the legal system, where inputs in the form of relevant information about the effectiveness of a legal norm lead to outputs in the form of a reaction from the legislator, who corrects the legal norm in order to achieve the desired goals according to legal policy.

This also describes the very operation of law in society as a purposeful human activity to achieve a specific goal (Bakošová and Vaculiková, 2006, p. 53). Currently, this is enabled by applying cybernetic epistemology in law, which views law as a cognitive system. Law, as a cognitive system, learns, adapts, and self-regulates through feedback, and at the same time, as a complex system, it learns to adapt to changing conditions (see Fedorov, 2016). Law is no longer approached only as a formal hierarchy of sources of law, a passive instrument of political will, and mere control of power. However, much more emphasis is placed on its dynamics, self-regulation, openness, and complexity. It is primarily a question of how to apply control through relevant information in law.

5. LAW IS A HISTORICAL DATA SET READY TO BE ANALYSED

In recent years, the digitisation of legal texts and developments in statistics, informatics, and data analysis have opened up entirely new ways to the study of law. These approaches take into account the datasets that constitute the law. The volume of legal data available and processed reflects an approach considering law a large data set. Data-driven legal approaches transform law into an analytical discipline focused on quantitative legal predictions (Katz, 2013; Catanzariti, 2021). With the help of mathematical models, statistics, and AI algorithms, legal situations can be analysed and even predicted. Such an approach makes it possible to work with a large amount of historical legal data and predict, for example, court decisions (see Katz, Bommarito, and Blackman, 2017). In the future, it is essential to use the potential of prediction to identify the consequences of legal policies.

All these results, the potential of technological law, the availability of big data, the effort to select the correct information, and its subsequent use with the aim of better

knowledge, creation, and application of law are changing the current approach to law. It expands the scope of traditional formal sources of law, such as laws and court decisions, to include additional layers of legally relevant data. These include, for example, legislative history, judicial practice, the length of proceedings, the litigant's argumentations in the dispute, contractual practice, or social and economic contexts (Surden, 2014). Legal analysis is thus transformed into a multidisciplinary activity that combines normative and empirical approaches with algorithms. It is a legal analysis helping lawyers in decision-making, argumentation, and predicting or assessing the impact of specific legal policies.

In this context, the practical implementation of technological law shifts from being just a theoretical exercise or legal knowledge to a true reflection of how the law functions. Nevertheless, traditional formal sources of law continue to be part of the historical legal data package. The analysis of this legal data is significantly broader, and technological law counts on it. It can be said that in the technological law of the posthuman era, legal information and data are becoming more important than the traditional theoretical distinction between formal sources of law. In this context, we refer to the role of formal legal sources among other legal data being analysed, such as legislative history, judicial practices, duration of proceedings, litigant's claims in disputes, contractual practices, social practice, and the broader social, political, cultural, and economic contexts. At this point, a series of questions arises: who determines the criteria for data selection, i.e., what data should be considered, and what weight will they have for decision-making? Will the criteria for data selection be the same for all legal relationships, legal branches, or countries, or should they take into account specificities? These are fundamentally important questions that need to be examined separately and thoughtfully adapted to the purposes or needs of practice.

This potential frequently fosters significant optimism about implementing technology in law. At this point, it is necessary to stop and recognise certain limits; despite the intersection between law, cybernetics, information, and data, which can work together and bring relevant results. That limit is legal consciousness. Although the technological era, or rather the information and digital age, brings possible philosophical and theoretical changes in the view of law, we have a category of legal consciousness that has always been associated with a human individual or a group of persons.

6. IS THE FUSION OF LAW AND TECHNOLOGY ALSO CHANGING THE LEGAL CONSCIOUSNESS?

The question of legal consciousness has always been an interesting one. The theory of law understands, under legal consciousness, the total of human ideas, opinions, and attitudes towards law. Legal consciousness is understood as a part of social consciousness and its specific form (see, e.g., Šoltys, 2021, p. 19). It reflects the psychological side of the law (see Večeřa et al., 2013, p. 24). Legal consciousness does not include only mutually conditioned ideas about law at the level of *de lege lata* and *de lege ferenda* (see Hencovská and Jesenko, 2010, pp. 46-47), but also the attitudes towards law that affect them (see Bakošová and Vaculíková, 2006, pp. 61-64). Until now, the question of legal consciousness – perhaps with one exception and to a limited extent (see Petrazycki, 1955, p. 79) – has been associated only with humans. Several types of legal consciousness are distinguished, among which we can find the legal consciousness of the whole society, different social groups, or individuals. Such a division is understandable and reflects that society comprises different social groups and individuals with different forms and levels of information and opinions about the law. Therefore, legal consciousness as a part of social consciousness is not one but is

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comprehensively divided. It is internally heterogeneous – it differs from group to group, from individual to individual, and takes on a completely different dimension if the criterion of professional knowledge comes into play (see Večeřa and Urbanová, 2006, pp. 243 et seq.). Overall, legal consciousness thus becomes a complex, internally structured social phenomenon based on elements of knowledge and evaluation of law.

However, if we choose to view legal consciousness as a reflection of the socio-legal mindset, then it encompasses both notions of valid law and ideal law. In that case, we will soon discover that, along with reflections on "what law is" at the level of *de lege lata* and "what the law ought to be" at the level of *de lege ferenda*, we can also explore, perhaps thanks to our human imagination and creativity, "what law could be" at the level of *de lege imaginata*. This degree of legal awareness is frequently overlooked in jurisprudence, although one may find the imaginative application of potential forms of law within it (see, e.g., White, 1985; Robson, 1992).

In this respect, we consider how legal consciousness is structurally formed, i.e., what elements are structurally active. Bakošová and Vaculíková distinguish between the cognitive, emotional-evaluative, and decision-making elements (see Bakošová and Vaculíková, 2006, p. 56). The cognitive aspect of legal consciousness encompasses cognitive elements and demonstrates knowledge and information about the law. The emotional-evaluative element contains ideas, principles, and evaluative judgments about the law. The third element is decision-making, which expresses attitudes towards the law. Considering the level of *de lege imaginata*, we can add another element related to imagination.

Such a form of legal consciousness, which has been present in the theory of law so far, reflects a certain anthropocentrism. Therefore, one can ask whether this anthropocentrism is still justified. Until now, legal reasoning has represented human's predominant method of thought. That is, how people usually think about law. However, in technological law, we encounter algorithmic legal reasoning, which is carried out by computers. With continued technological development and growing posthumanism, the concept of legal consciousness and reasoning may change fundamentally. Integrating AI, ML, and NLP in the law led to the partial externalisation, automation, and transformation of legal information and data processing into computational models. Posthumanism generally transforms the existing values of society in a way that reflects human interactions with technology (see, e.g., Pepperell, 2003). Francesca Ferrando considers posthumanist philosophy to be the decisive philosophy of our time, which comes within postmodernism (the second generation of postmodernism) and after it (see Ferrando, 2019, pp. 1, 22, 24). Undoubtedly, technological influence is changing human activities, interests, lifestyle, problem-solving, and thus reasoning. In short, the posthumanist technological influence on humans can cause a transformation of the essence of human. The way humans adapt to technology, along with various technological advancements, fundamentally reshapes them into posthuman (see Ferrando, 2019, pp. 2-3). These overarching trends allow for a reevaluation of current philosophical, social, ethical, cultural, and political concepts. The legal concepts and the practice of legal professions are no exception (see, e.g., Susskind, 2000; Susskind and Susskind, 2015; Deakin and Markou, 2020; Brownsword, 2021).

Posthuman law refers to a legal framework that addresses significant technological trends and challenges we currently face, which are difficult to overlook from philosophical, social, political, and professional perspectives. Among all these issues, there is the question of legal consciousness. So, will the rise of posthumanism in law cause legal consciousness to be supplemented (or has it already been supplemented?) by some new machine legal consciousness?

The response to this question revolves around the existence of machine legal consciousness. Answering yes to this question would require considerable courage at this time. In general, machine consciousness is philosophically and technologically complex (see Bröstl, 2024, pp. 86 et seq.) and an ethically controversial issue (see, e.g., Basl, 2013; Chella, 2023). A brief overview of the current literature is not conducive to claims about the possible existence of machine legal consciousness (see, e.g., Baranov, Mamychev, Dremliuga and Miroshnichenko, 2021, p. 903).

Skepticism and caution are appropriate here, and it is understandable because consciousness is a very complex phenomenon. For example, David Chalmers has categorised questions of consciousness and the resulting explanations into two sets of problems, namely "easy problems of consciousness" and "hard problems of consciousness" (Chalmers, 1995). The easy problems of consciousness are explained by neuroscience and cognitive science. They concern the functioning of the brain and the processing of information. Thus, it is about explanations by the mechanism of distinguishing, sorting, and responding to external stimuli, information processing, conscious control of movements, maintaining attention, etc. These are all technically complex processes, but still scientifically detectable and explainable.

However, there are the hard problems of consciousness, which relate to the problems of subjective experience, i.e., why we feel and experience something in a way that is inherent in the human subject. In other words, why do we not only process information in a dry manner, but also incorporate subjective perception into it? The answer is *qualia*.

Explaining how *qualia* work – i.e., the process of subjective conscious experience, which is responsible for creating subjective experiences – is a demanding philosophical assignment. In this sense, it is so clear that we cannot entirely explain it. Thus, we cannot comprehend consciousness. Can it then be effectively simulated by machines? What are advanced legal analytical tools, and what problems can they solve?

The currently available use of AI in law has focused only on computationally manageable aspects of legal information and data processing (e.g., legal algorithms, predictive models, NLP tools for contract or decision analysis). The tasks assigned to the legally advanced tool and for which they have been created so far are functional, computational, and algorithmisable. All these tools can only solve the so-called easy problems of (legal) consciousness. A subjective understanding of the law and individual legal situations that would lead to formulating subjective legal attitudes or experiences remains an exclusively human matter. It is accessible only to human legal consciousness. AI completely lacks this aspect and cannot authentically take into account value judgments, an authentic sense of responsibility for one's own decisions, or other irrational influences (including historical perspective) necessary for reasonable and morally sound decision-making. Whether it may be different in the future, i.e., whether we will ever talk about machine (legal) consciousness, may be one of the subjects of visionary or (legal) futurology. Similarly, it can be a stimulus for the development of ideas about law at the level of *de lege imaginat*ion, what the law would look like in entirely different conditions (e.g., in a society controlled exclusively by AI) – as we have the opportunity to encounter more than once in the literary genre of science fiction.

In summary, however, we can already encounter the application of machine reasoning thanks to the advanced legal analytical tools they use. Reasoning can exist and apply itself even without the need for a broader consciousness. Moreover, if we mention AI, we already have an example of reasoning without needing consciousness. In the context of advanced legal tools, the cognitive element of legal information is significantly improved. This enhancement appears to exceed that of any individual or group of experts

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regarding the volume of information and data processed and analysed, as well as the speed at which this occurs. However, it does not have to end here. In the next part of the paper, we will discuss the fusion of the human (natural) and the machine (artificial) for the law in the posthuman era. This can be understood as a pragmatic reason for the fusion of law and technology, which justifies approaching it as a hybrid – partly still human and partly already machine activity.

In the following part of the paper, we will briefly focus on how this hybrid can affect the essence of lawyers as professionals in a posthuman situation. In this regard, I focus mainly on a rough hybrid legal consciousness with an enhanced cognitive side. One might ask how this is related to the sources of law. If part of decision-making about law and its creation, application, or evaluation is to include feedback in the form of an output processed by a reliable analysis of the quantum of available data, then we must necessarily ask whether the data evaluated in this way remains without real weight and practical consequences. Therefore, the brief analysis of the shift of legal consciousness is included here not as a digression but because it directly concerns the transformation of the sources of law. If advanced analytical tools and technological law become embedded in legal practice, they will inevitably affect the way lawyers perceive law, interpret legal sources, apply legal norms, prepare argumentation, and make decisions about the legal side of all kinds of matters. Legal consciousness is, therefore, a crucial category for understanding how these technological changes reshape the posthuman epistemology of law. The bionic lawyer represents a pragmatic justification for the hybrid nature of legal practice.

7. THE LAWYER OF TODAY IS ALREADY A CYBORG/POST-LAWYER/POSTHUMAN

The concept of a bionic lawyer represents a specific fusion of law and technology. This concept represents the balance between the human element and the technical aspects. To represent the idea of a bionic lawyer does not imply removing the human element from legal practice (Hesse, 2023). The idea of a bionic lawyer represents a particular intermediate stage or balance between exclusively human activities in law and full automation of the law. They combine traditional legal skills with advanced technologies, relying mainly on the potential of AI, MP, and NLP.

A bionic lawyer is a cyborg. The use of advanced legal analytical tools and the fact that lawyers allow themselves to be influenced by advanced legal analytical tools by drawing information and knowledge from them blur the differences between a human legal expert and a machine. The bionic lawyer is, therefore, a hybrid. Moreover, like everything hybrid, it embodies the erasure of the boundary between natural and artificial (see Haraway, 2016, p. 5).

This is the basic ontological situation of the lawyer in posthuman conditions. Thus, there is a certain organic continuity between human-lawyer and machine-legal tool. At the same time, it is one of the representations of the posthuman. Better said, it is a concrete adaptation of the posthuman in the conditions of posthuman legal professions. Moreover, the abstract and complex question of the possible existence of machine (legal) consciousness is eliminated in this case. This is because the bionic lawyer is, on the one hand, a natural person of flesh and blood; on the other hand, he or she is a machine. Not only is the boundary of the old dualism, distinguishing between the natural and the artificial, erased (Harrington et al., 2006, p. 426), but the natural is expanded to include the artificial, and the artificial, on the contrary, expands to include the natural so that they become one. A natural person with a limited cognitive capacity of legal consciousness obtains the benefits of machine reasoning. Machine reasoning can be applied even

though it does not have an absolute consciousness and, therefore, lacks *qualia*. In this sense, it represents a cybernetic professional organism. Part of his or her individual legal consciousness as a legal expert and professional is made up of information that he or she obtains cybernetically.

The bionic lawyer is a unique concept because his or her work results from the interaction between personal and technological. He or she searches for legislation and court decisions through dedicated portals. He or she reads a text that is electronically and digitally processed. To a certain extent, he or she becomes dependent not only on his or her ability to work with them – i.e., to search correctly and efficiently – but also on the results these advanced legal analytical tools offer him. At the end of the day, however, the ability to process this information and thus deal with it efficiently is crucial. However, the situation is entirely different when advanced legal analytical tools can prepare a text as a legal analysis by considering legal regulations, court decisions, and other legal information and data. These will, therefore, be outcomes that will prepare a professional text in the form of a thorough legal analysis by considering a large amount of available and relevant data on the legislation, the possibilities of argumentation, or the possibilities of resolving possible legal disputes.

However, we do not have to stop at the individual legal consciousness of lawyers. The cyborg becomes, in the Harawayian sense, a prefiguration of the existence of a society in which the application of technological innovations in different areas of social life is mixed to such an extent that the everyday life of individuals is affected (see Haraway, 2016, pp. 15, 38; see also Pohl, 2017, pp. 10 et seq.). So, we come to the general picture of a technologically improved society. Technological law can become some kind of a bionic social system. Therefore, it is the law or knowledge of the law that is made accessible to us through technology, along with all the information, data, and required processed outputs about the institutional context (decisions and practice of courts and other state bodies) and the broader social context of law. But it is also a hybrid normative framework, where human and machine reasoning cooperate in the formulation of legal policy, legislation, preparation of legal argumentation, legal decision-making, etc. In this sense, it also represents the link between man and machine for the functioning of society. Law as a social system is becoming a hybrid system combining the human and social components with sophisticated technologies such as AI, ML, NLP, algorithms, and data. Undoubtedly, this trend to adopt technology is also approached by law itself. As Roger Brownsword shows, the law is not entirely separable from technology. The law is also no longer just a regulator of the legal limits of the application of technology. On the contrary, it innovates itself technologically and thus changes its form from law 1.0 and law 2.0 to law 3.0. So that law becomes more technological, and technology becomes more like another regulative system (see Brownsword and Somsen, p. 4). However, what seems to be missing in Brownsword's considerations is a critical reassessment of the symbiosis between technology, law, and the human. It is essential to emphasise that humans should be influenced by technologies and law, but also remain subjects actively deciding about them, rather than being reduced to passive objects of their development and regulation. In other words, law and technology as regulation become alienated from humans.

CONCLUSION

This paper examined how the increasing amount of data, the reliability of its processing, and the potential to alter current knowledge and perceptions of law are

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connected to the fusion of law and technology. Such a fusion demands new epistemological and ontological perspectives on law.

Applying cybernetics is crucial because it offers a unifying transdisciplinary framework that enables us to see law as a regulatory (cyber) system and a system of information and control for social processes. In the era of data-driven law and the availability of large data sets, the traditional hierarchy of legal sources, especially formal sources, can be reshaped. The cybernetics approach allows us to leverage the analysis of such data and understand that law functions on the principles of self-regulation and adaptation through feedback. Without this, the vast amount of data on law would be useless, and analysing it would just be a meaningless exercise.

The development of AI, ML, and NLP is fundamentally changing not only how legal professionals gather and analyse information but also the core structure of legal reasoning itself. In the context of posthumanism, legal reasoning is enhanced by algorithmic processes that incorporate the evaluation of legal issues with greater efficiency, accuracy, complexity, and speed. While advanced AI tools certainly offer opportunities to speed up, improve, and elevate the quality of legal work, this paper shows that their impact goes beyond simple practical improvements.

Moreover, advanced legal analytical tools, with the help of AI, ML, and NLP, mediate law expressed in formal legal sources. Therefore, in the traditional structure of sources of law, they are gnoseological sources of law. Gnoseological sources of law are the sources of knowledge about law, meaning any available information regarding law and its social effects (see Gerloch, 2013, p. 71). However, will these outputs remain merely mediators of legal knowledge, serving only to mediate information about law? These questions are mainly relevant for actual availability, especially given their frequent increase in legal practice and understanding of the law and its potential impacts. A key reason for their usability is the volume of data they can process.

Therefore, it is worth considering an alternative perspective on the implications of advanced legal analytical tools. These analyses can, in theory, represent the pinnacle of legal expertise. Similar to the opinions issued by Roman jurists, they may serve as authoritative testimonies (see, e.g., Blaho and Rebro, 2019, p. 55; Gregor, 2022, p. 37), which were historically used in resolving legal disputes (see, e.g., Dobrovič, 2015, 2017).

To go beyond merely practical improvements, gnoseological sense, or advisory roles of advanced legal analytical tools, we must consider their influence on ongoing philosophical, public, and professional discussions. The adoption of these technologies represents a significant philosophical shift within the framework of posthumanism discourse. The legal domain, through technological innovation, evolves into a collaborative system of control characterised by human-algorithm cooperation. As a result, AI systems go beyond their role as mere tools, contributing to the co-creation of a hybrid model of legal epistemology.

These findings suggest that the widespread use of AI, ML, and NLP and their integration into daily practice are transforming not only how lawyers work but also the fundamental structure of legal reasoning. This change results from the synthesis of biological and mathematical neural networks within the legal domain. Law is evolving into a hybrid system where human and social elements are combined with advanced technologies. The concept of a bionic lawyer indicates the emergence of a new form of legal professionalism and reality in which human rationality and machine algorithms work together to create a collaborative control system – even on a professional and personal level.

However, the question of what criteria AI output must meet to become legally acceptable remains open. It is also unclear what ethical and value criteria artificial

intelligence must meet to be fully acceptable. The discussion must be conducted at a theoretical level to determine whether current trends can fit into existing legal theories, or whether a completely new theory adapted to technological law in a posthumanist context is needed. As previously mentioned, technological law draws legal information and data from wider sources than just legislation and court rulings. Theoretically, this reality could greatly influence the traditional classification of legal sources and signify a major change in practice.

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