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Theoretical and Methodological Aspects of the Genesis of Legal Misconduct in the Neuroethical Dimension

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Abstract: *The article presents an analysis of the origins and development of legal misconduct from a historical perspective within the framework of legal studies. The relevance of the study is determined by modern conflicts in society, the cause of which is legal misconduct in law. It is important for a person in the new society to understand how to resolve conflicts on the basis of law. The main purpose of the article is to consider the features of neuroethics as a new scientific discipline, which claims to be not only a form of applied ethics, but also an apology of morality within the framework of a naturalistic paradigm based on new data from neurobiology and cognitive science, which determines the main content of the genesis of the legal aspect. The article explored the evolution of scientific research on the problem of legal formation in the postmodern worldview. It is established that the importance of legal culture in society is due to the practical value for the establishment of justice, equality, and human dignity. Legal science is the object of study of historical figures in different historical periods. In the postmodern era in the life of society legal misconduct is the cause of many conflicts. The article examines legal knowledge as an aspect of neuroethical formation in historical retrospect. The concept of neuroethics, formed from neurophysiology, which influences self-awareness and the formation of morality of will in the context of the formation of political and legal relations, is defined. Scientific and methodological basis of the study are the conclusions of Ukrainian and foreign researchers in the field of law and legal responsibility. On the basis of scientific works the tasks of the study and the goals that form the main theoretical and methodological approaches of this study are defined. Theoretical and methodological approaches formed the results of the study, in particular the genesis of the formation of legal misconduct in the law. Methods of synthesis, analysis, descriptive and historical method were used for effective research. The method of generalisation was used to determine the main results of the study.*

Keywords: *legal responsibility; legal sciences; regulatory system; state creation; offense.*

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1. Introduction

In today's society, the problem of abuse and wrongdoing in various areas of human activity has arisen due to globalisation and integration. Thus, common phenomena include economic crimes and terrorist actions of international importance, which are difficult to qualify as offenses or legal misconduct because they go beyond the legislation of the state, and at the same time, it is difficult to qualify them as crimes within the limits of international law. The world economy has been formed throughout the historical evolution of society and is based on human interests to accumulate capital and the idea of free trade, and, therefore, is the cause of social stratification and enrichment of the minority at the expense of the majority (Maksymchuk et al., 2022). This tendency deforms the principle of democracy because the power of the people is only a formal cover for the interests of the real political elite, which has access to the regulation of resources and the resources themselves.

Offenses and abuses by governmental elites are a frequent phenomenon in today's world-class politics. As a rule, government members are not held accountable for wrongdoing, which leads to resentment in society. Legal transgressions on the part of ordinary citizens can be punished much more often, although they are not as severe. Therefore, there is a need to study legal transgressions in the context of the genesis of legal relations, offenses, and punishment for them throughout the historical civilisational development. After all, it is important to normalise social relations in order to avoid mistakes that could lead to the loss of world balance and collapse.

The Ukrainian state is developing in the direction of European integration, which prompts the determination of ways of establishing democratic values and legal norms (Melnyk et al., 2021). The legal branch is important in this aspect. Legal values in the state are shaped through the implementation of state-legal norms and the formation of a clear system of legal responsibility for legal misconduct. It is necessary to determine the essential characteristics of the concept of legal misconduct and to form a system of legal norms and values in order to promote the adequate formation of a legal society in the conditions of current globalisation and European integration.

The present evidence is carried out based on the results of scientific research in the field of law. Based on the work of scientists, neurophysiological influencing factors on the formation of legal science were identified. Scientists investigated key aspects of the development of legal science in historical retrospect, identified the most important problems of legal topics of the global scale of modern development, contemplated the causes of global conflicts and established basic approaches to the essence of legal sciences as a factor of state formation (Dykan et al., 2021).

The formation of a legal society is an indicator of general development. If vulnerable categories of the population are protected, this indicates a high level of civilisation. At the beginning of the history of state formation, the law served to protect the strong, and in modern life, it is an opportunity to protect the weak. The humanisation of law in the process of historical development is strengthened in various regulatory and legal aspects. Law is gaining social significance, in particular in the context of juvenile prevention, which strengthens the protection of the most vulnerable categories of the population. However, the establishment of legal norms in the context of international significance mainly has a formal application, and in fact, people's rights are often violated, which leads to an imbalance in social development. Therefore, the study of the formation process is important and relevant in the conditions of the development of the modern global world.

The formation of the law in the context of neuroethics is considered from several perspectives. On the one hand, it is presented as a type of bioethics, applied ethics, ethics of neuroscience, and neuroscientific ethics. On the other hand, its manifestations are noted as an element of technoscience and as a variant of the suitable anthropological transformations, which in the era of biotechnology were called "human improvement". Thus, the disciplinary aspects of neuroethics are studied in the optics of a critical analysis of the biotechnological improvement of man, which was carried out in bioethics. Theoretical criteria of inclusion and exclusion are used, and the grounds for the inclusion and exclusion of neuroethics in bioethics are highlighted. It is

noted that the naturalistic paradigm in which the disciplinary ontology of law as neuroethics is shaped in a way that dehumanises it. The one-sidedness of the narrowing of the subject of neuroethics within the framework of applied and research ethics is pointed out. Scientific ethics is presented as a rethinking of the very nature of morality, which is the main factor of law, based on new data. This version of neuroethics develops a view of a new neuro-enhanced society. The key concept of such neuroscientific ethics is cognitive enhancement, therefore, it is based not only on the neurological explanation of the mechanisms of behaviour but also on the ability to use psychoactive substances and other technological possibilities opened by neuroscience to expand the capabilities of consciousness.

Naturalistic reductionism in the understanding of morality makes a person vulnerable in their right to self-identification and opens the way for control over the personality. From this point of view, it is concluded that in order to consistently develop bioethics and remain within the framework of an inclusive model, neuroethics must introduce new dimensions of moral choice into bioethical discussions that arise in connection with new scientific data. Brain research reveals even greater complexity in the moral life of man and society, especially in the legal field, and affects a person's self-knowledge and self-identification.

The purpose of this article is to analyse the formation of legal transgressions in the law in the context of the neuroethical dimension.

2. The Concept of Law in the Neuroethical Dimension

The emergence of new humanities disciplines, especially at the junction of different fields of scientific knowledge, is a frequent phenomenon today. Among them, neuroethics has a number of features that pose a question of the utmost methodological level. If we pay attention to the development of bioethics, to which we will turn in order to answer the question "What is neuroethics?", it is quite difficult to identify moments and events in its history that unequivocally speak of its beginning. For example, the Nuremberg Trials of Nazi doctors and the development of the Nuremberg Code, which underlies the modern regulation of biomedical research and is the core of the research ethics included in bioethics.

The beginning of neuroethics, unlike bioethics, can be spoken of more definitively, indicating its "programmatic" and, consequently, reflexive nature. This was programmed, on the one hand, by the rapid development of neuroscience and the expansion of the spectrum of neuroscience. Moreover, the emergence of neuroethics was the result of the general trend of humanitarian support for scientific mega-projects in biomedicine. The first such experience was the ethical expertise of the Human Genome Project, formalised in such neologisms as "genetics" or "genomics ethics". This experience was evaluated as necessary. The practice of humanitarian expertise was institutionalised, leading to the assumption that other scientific currents should also have their own ethics, and when in the 1990s they began to actively develop neuroscience, it appeared that the precedent for their humanitarian research had already been set (Gagganiga, 2005).

The term did not need to be invented, since the concept of neuro-ethics had already been in use since the 1970s. It was highly specialised and referred to medical ethics in neurology. At that time, neuroethics included ethical problems of interaction with patients with impaired brain processes (for example, after epilepsy or craniocerebral trauma), as well as problems of mental disorders in children. With the development of neuroscience, the term "neuroethics" became increasingly used in the field of the latest methods of studying brain processes and using the results obtained in medicine, commerce, intelligent systems, etc. It has also popularised its interest in lexicography, defined as the discipline of neuroethics related to new technologies, exploring the treatment of the human brain or (when perfected) its disruption. The location of neuroethics is in the field of philosophy. By studying the mechanisms of morality, neuroethics is reclaiming new territory from the old philosophical discipline.

Neuroethics is also seen as the study of the ethical, legal, and social implications of neuroscience and the implementation of technology for individuals and society at large. At the same

time, neuroethics was becoming a scientific and academic discipline, as evidenced by the appearance of scholarly journals and university courses. A group of scientists and funders from around the world began discussing ways to support international collaboration on neuroethics, in an association that became known as the International Neuroethics Network.

There was no initial debate about the status of neuroethics: whether it should be developed as a separate section of bioethics or incorporated into bioethics. In recent decades, there has been a boom in applied ethics, as codified moral regulation was required not only in the area of biomedical research. New forms of professional and institutional ethics have emerged. From this series, it seems clear that neuroethics, like bioethics in general, is a form of applied ethics. The controversy is that they attempt to explain neuroethics as morality itself in a society dominated by cognitive functions and artificial intelligence (Ackerman, 2006). The methodological situation of the dual understanding of ethics as synonymous with morality and knowledge of morality in connection with neuroethics gains a new focus: besides the search for the good and the proper and their normative justification, the ontological basis of morality itself is an essential concern. At the same time, the nature of consciousness and all its phenomena are being redefined in cognitive neuroscience. Neuroethics becomes, in fact, a natural science - neuroscientific ethics and has an opportunity to technologise its conclusions, turning them into recommendations for improving human behaviour and relations in society (Gagganiga, 2005; Farah, 2005). The relevance of elucidating the limits and possibilities of neuroethics thus derives not only from the development of neuroscience research and the development of neurotechnology, surprising breakthroughs, and raising more and more ethical questions, but also from the fact that neuroethics demonstrates the desire to establish the morality of a new neuro-enhanced society.

To define the contours of neuroethics, let us consider the main perspectives of its interpretation. It can be understood, first, as a section of bioethics; second, neuroethics can be interpreted as applied ethics; third, as an independent type of research or professional ethics in the neurosciences and in neurological practice in medicine. Finally, the fourth option, the most specific and not only for the discipline in question, but also for the humanities as a whole, and especially for district as ethics, presents neuroethics as an ethics of consciousness or a philosophy of the brain, claiming the final declaration of the victory of the naturalistic paradigm in understanding morality and, accordingly, regards neuroethics itself as a source of new morality in society.

Inclusive and exclusive approaches to neuroethics and bioethics are theoretical tools for exploring the phenomenon and possibilities of neuroethics as a regulatory source and a new way of understanding morality. It is generally recognised that bioethics is an interdisciplinary field in which the natural and social sciences and the humanities intersect in discussing the moral issues of today's biomedicine. Recently, the indication of interdisciplinarity has given way to transdisciplinarity. This term means that bioethics is formed not only from the synthesis of scientific knowledge but also extends beyond academic discourse into the realm of the lifeworld, which is the source of "profane" judgements no less important for finding solutions to the complex dilemmas of bioethics. The interplay and cross-fertilisation of knowledge between science and society is a key principle of transdisciplinarity. Bioethical transdisciplinary communicative practices at the intersection with the lifeworld give rise to a new form of rationality in human actions during critical existential situations. We believe that this unique characteristic of bioethics is curiously inverted in neuroethics, which asserts itself as a new form of morality. Apart from the fact that neuroethics is developing in the direction of neuroscience ethics, there is a rethinking of the nature of morality itself based on new experimental data, which generates a new "neuroscience ethics". Neuroscience ethics involves at least three aspects of the study of morality: the creation of evolutionary ethics based on cognitive science data, the explanation of moral phenomena by the activity of neural connections, and, on this basis, the revision of the problem of free will. Neurological reductionism is rejected by many researchers as a one-sided paradigm. Such a refutation has already had precedents in the history of philosophy and science (struggles against vulgar materialism, criticisms of naturalism, and sociobiology). Scientific thinking is not immune to naturalistic ideas, and the

humanities, which use scientific natural methods, such as experimental psychology, often fall under their influence.

Experiments conducted by neurophysiologists and cognitive psychologists have sparked discussions surrounding neurological determinism in relation to the essence and origins of morality, free will, and moral behavior. Some scholars argue that morality is objective, existing as a moral framework encoded within our neurons that is activated based on the social context, such as upbringing, well-being, and societal values. The interplay between the social and the individual, as well as the subjective and objective aspects of morality, was extensively examined in Russian ethics during the 1970s and 1980s. Today, however, we possess a more profound and nuanced understanding of how the dynamic relationship between the material and ideal elements of morality, and, more broadly, human conscious experience, can be comprehended.

When the subject of neuroethics is no longer the normativity of research but morality itself, it raises questions of the philosophical level, and it is this version of neuroethics that is closer to the philosophical, and thus legal, context. Neuroethics itself becomes a problem of bioethics, as its version of the naturalisation of morality actualises the question of human improvement. If the source of moral action is located directly or indirectly in neural correlates, once this connection is discovered in scientific research, there is a technologically formalised desire to influence it. This influence is first dictated by the desire to help people with neuropsychiatric disorders and then by the desire to improve healthy people in order to improve their cognitive and moral qualities, since, in the evolutionary understanding of ethics, the development of cognitive abilities simultaneously leads to moral progress.

3. Features of the Neurotechnological Factor in the Emergence of Ethical Dilemmas

The modern information society has entered a period of maturity: the information and technological structure of society, the information and communication environment, and the human life world have been updated, and digital technologies are developing intensively. The information and technological wave, updating sociality, takes away outdated forms of social interaction and methods of socialisation, ineffective forms of interaction between man and technology into the depths of the cultural layer.

The problem of human adaptation to the new technological order, the complication of the information and technological environment of everyday life and professional activity, and the constant growth of information load and information diversity are becoming progressively obvious and acute. The problem is not mostly in the need for the mass user to master computer and information literacy. This has happened and is happening, but objectively, there has been a social need for a new way of managing a complex information and technological environment, a need for a new way of communication between man and technology in "man-machine" systems and other complex independent systems. These are developing systems created by modern civilisation in the process of innovative activity. Previous methods of interaction between technology and humanity are laborious, complex, and not always effective. This need has been formed to a large extent under the influence of trends in the development of Industry and the digital transformation of the main spheres of society, the result of which is personalisation, the focus of the functioning of social institutions on the individual. It is thanks to digital technologies that it is possible to deliver information directly to specific consumers, and information and digital technologies are included in social interaction, becoming part of social action, the implementation of a strategy, which is developed and implemented by the management apparatus, and cease to be value-neutral. Thus, it is noted that digital technologies are beginning to have an "organising, stimulating or restrictive effect on social behaviour". The transfer of interpersonal interactions and communication into a digital format practically leads to the fact that the constant use of this format programs a certain "set of social rules and basic values", which are then automated, detailed, and can be transferred to the legal sphere.

An explanation of the processes taking place becomes possible when turning to the study of the laws of complex, self-developing systems, including humans. In these complex systems, new levels of organisation arise in the development process, while the system differentiates, new subsystems appear in it, the control unit is rebuilt, new parameters of order, new types of direct and feedback connections arise. Digital transformation, the development of such digital technologies as big data, neurotechnology, and artificial intelligence, industrial Internet, wireless communication technologies, virtual and augmented reality technologies, digital twins, etc., actually generate these new levels of organisation and management, forming new types of direct and feedback connections.

Self-development in such complex technological systems created by man for certain purposes is enabled through the information and communication technological environment. This environment plays an important role in the coevolution of man, technology, and society, which is manifested in two complementary trends: equipping technical systems with intelligent information processing and management systems and technologisation of human activity and cognition. As a result, the information load on a person increases, and there is a need to simplify and optimise the interaction and communication of a person with the information and technological environment, and the need to develop new methods of human communication with technology is formed. Neurotechnologies can become and are already becoming the basis for a new way of integrating humans with the technological environment in the conditions of the technosphere's complexity. Currently, the "market of human-machine communications, based on advanced developments in neurotechnologies and increasing the productivity of human-machine systems, the productivity of mental and mental processes" is just beginning to take shape. In the neural network, which is expected to gradually replace the Internet, participants will interact using neurocomputer interfaces, which will facilitate human adaptation to the complex information and technological environment of modern society. At the same time, the productivity of thinking and mental processes will increase, which will allow a person to cope with the growing information load.

The creation of neurotechnologies is based on the principles of the functioning of the nervous system. Currently, neurotechnologies are at the initial stage of development in the consumer market. At the same time, the most promising areas of application of neurotechnologies were identified: control of technical systems and devices, communications, the medical field (neuroprosthetics, which allows restoring a person's motor, sensory and cognitive abilities, development of rehabilitation tools), neuroentertainment (ocular fitness, remote sports, full immersion games), neuroeconomics (study and forecasting of consumer behaviour based on biometric data and neurodata), neuroeducation (neurointerfaces, new teaching methods using virtual and augmented reality technologies, creation of devices for memory training), neuroassistants, neurocommunication between people, between people and machines (brain-computer interfaces).

It is assumed that the development of neurocommunication will revolutionise communication, surpassing all previous revolutions, including the emergence of writing, printing, the telegraph, telephone, and Internet.

Experts emphasise that many neurotechnologies are still at the prototype stage or at the design stage, and some are already used, for example, in medicine, but in a limited number of cases. The most promising markets for neurotechnology are considered to be medicine, healthcare, education, and communications.

One of the most promising neurotechnologies (from the point of view of the development of human-machine communication) and, at the same time, rapidly developing areas of neuroscientific research is the brain-computer interface.

A brain-computer interface is a system that uses information about brain activity to control external devices "without the participation of nerves and muscles". There are various definitions of the brain-computer interface. At the same time, there are the following properties that are typically included in almost any definition: the ability of the brain-computer interface to directly determine brain activity; the ability to provide feedback in real or near real time; the ability to classify brain

activity and provide the user with feedback that reflects whether he/she has successfully achieved the goal.

A brain-computer interface measures brain activity. Electrical activity in the brain is recorded by electrodes on the scalp (non-invasive interfaces) and on the surface of the cerebral cortex or directly in the intracortical (invasive interfaces). The interface detects signals that convey intent, these signals are amplified and digitised. Relevant signal characteristics are extracted, processed by a computer, and converted into commands that can control programs or external devices. A BCI provides a direct, non-muscular connection between living neural tissue, the brain, and an artificial device, the computer. The recorded data is used in most cases to control devices such as prosthetics, wheelchairs, or computer software such as a cursor or writing programs. In many designs, these external devices provide feedback that allows BCI users to modify their brain activity to achieve desired goals and outcomes. Noninvasive brain-computer interfaces are easier and safer to use than invasive ones, but have limited signal bandwidth. Invasive brain-computer interfaces provide high-resolution signals due to direct contact of multi-electrode arrays with neural nodes of the brain without filtering barriers (namely, the bones of the skull) and provide the possibility of local stimulation of nervous tissue to transmit feedback signals to the brain. The main application and the most studied area of use of BCI is assistive technology. Currently, the brain-computer neurointerface is used to treat neurological diseases and injuries. The interface allows for a direct connection between the brain and devices that compensate for lost functions (neuroprostheses, wheelchairs, etc.). An interface has been developed that is based on objective indicators of the brain; it is controlled by a wide range of characteristics of brain activity that correspond to a certain type of cognitive activity, for example, solving various mental tasks. A brain-computer interface can be used to monitor the status of operators of complex systems, in particular, an air traffic controller who monitors many parameters simultaneously and involuntarily switches attention.

4. Theoretical and Methodological Aspects of the Genesis of Legal Misconduct in Law

The methodological basis of the study consists of the analysis of the researchers' conclusions on the principles of conceptual categories and definitions (Kornosenko et al., 2021). The research work proposed a systematic, comprehensive, theoretical, and methodological approach to the analysis of the essence of the genesis of law and legal misconduct, in particular, the definition of concepts revealing the content of the study. Scientific views of representatives of different social sciences were generalised, which allowed clarifying the concept: "legal misconduct", "legal state", "genesis of legal formation", and others.

Today's society has a low level of trust in state institutions, which prompts the search for a way to solve the problems of delinquency and abuse of power in making judicial decisions or proving the guilt of employees. People perceive legal organisations as a manipulative object to achieve a personal goal by certain individuals (Tkachova et al., 2021). Therefore, it is necessary to define the essence of the concept of legal misconduct and to investigate the principles of its formation throughout history in order to establish fair punishment and responsibility for offenses. Improvement of the system of legal relations and regulation of normative-legal acts in the sphere of legal services requires increasing the level of efficiency of officials' activity and the formation of their responsible attitude to their duties.

The examination of normative legal acts constitutes a crucial component in the exploration of legal misconduct and the evolution of legal science. The main methods of research, in particular, general scientific and specifically scientific deduction, induction, analysis, and synthesis, were effectively applied to establish the content of normative legal documents. Comparative legal methods were used to establish the content of legal acts, to compare the legislation on an international scale, and within the state, normative legal acts in the sphere of legal services require increasing the level of efficiency of officials and the formation of their responsible attitude to their duties.

The concept of "crime", which appeared in theory and practice, extended to all violations of laws and other normative legal acts exist, but the distinction among them is based on the severity of the violations. Scholars argue that the previous legal framework failed to categorise criminal acts according to their degree of punishability and lacked a specific terminology for them. In the earliest legal texts, the term "crime" was utilised in a more general sense, as noted by Marshalok et al. (2021). When the concepts of "crime" and "misdemeanor" first appeared, special institutions were established to isolate beggars and vagrants (potential criminals). However, this did not lead to a clear differentiation of offenses, and consequently, the execution of punishment for their commission took place in uniform forms.

The formation and development of the doctrine of legal facts took place in the Middle Ages, when in the countries of Western Europe, there was an active process of reception of Roman law and its systematisation. The practice of summarising accumulated knowledge led to a phenomenon called Pandectism. Pandectists proceeded from the notion that the content of the sources of Roman law was based on general principles, and the provisions contained in the Pandects are in a certain system (Strashko et al., 2021). As a result of this process, general concepts, theories, fundamental legal concepts, and principles were formulated. In this regard, scholars call Pandectism "a kind of cultural concentrate of the universal masterpiece, Roman private law", "the first universal system of legal knowledge in history", and an indicator of "a generalised very high order".

In contemporary legal literature, the issue of legal misconduct as a foundation for the emergence of legal violations is being examined (Strashko et al., 2021). Traditionally, various offenses across different spheres of activity are included in this discussion; however, references to the concept of "right assignments" in the context of the alteration and termination of legal relations are less common. Furthermore, there is still no definitive and comprehensive list of normative-legal acts pertaining to offenses in the existing literature, and efforts to systematise this diverse array of legal phenomena remain infrequent.

Like any other phenomenon of reality, actions qualified as transactions existed before they were regulated by law. They did not give rise to legal consequences, existing only as a phenomenon of factual order. However, the public awareness demanded guarantees to protect their rights, confirmation of the positive law of the legality of their existence. In particular, they demanded a transparent regulation of the grounds for the emergence of the right to a thing.

Theoretical generalisations that led to the emergence of the very concept of a legal fact, most likely, would have been impossible without the pre-formed "foundation", which was the Roman private law. The authors argue that the roots of the concept of "legal fact" lie in the deep history of legal science (Honchar et al., 2021). Thus, the legal branch is based on the history of the formation of the first state, which was formed based on legal relations.

Analysis of legal science in terms of its development, functions and content (including the study of theoretical heritage of the past) is one of the important positions and helps to understand, explain the idealistic interpretation of philosophical, legal development of legal science, as well as critically comprehend its essence from different legal sciences, positions. This will make it possible to draw a parallel between contemporary legal opinion and the legal views of the past.

In analysing the perspectives of representatives from the philosophical-legal tradition, which have both examined and enriched jurisprudence and legal science as a whole, it is essential to highlight their significant impact on the development of contemporary legal studies. Fields such as the theory of state and law, comparative law, and sociology of law, along with various legal offshoots, have all been influenced by this heritage (Saienko & Gurmazhenko, 2010). The objective of this study is to trace the evolution of legal science, identify its defining characteristics, and ascertain its value and significance through an examination of its content and functions. The methodological framework of the study is grounded in a socio-legal and historical interpretation of legal science, emphasizing the synthesis between legal knowledge and other areas of knowledge and practice.

The notable trend of ethicisation, which characterises modern law, manifests in the emergence of new varieties of applied ethics and the humanitarian support of scientific megaprojects. This shift has led to the development of a cluster of ethical introspection within science itself. With the recognition of science as a social institution and the impact of the values and norms of the scientific community on scientific outcomes, addressing moral concerns has become a crucial component of scientists' self-organization. In this current phase of scientific evolution, marked by the transition to technoscience, a key feature is not only the integration of knowledge production and technology but also the social management that accompanies the implementation of innovation within society. Thus, one of the specific features of technoscience is what can be called "human-orientation", i.e., the orientation of searched and realised solutions directly on the person, even though it is very important, on the person as a mass consumer of these solutions. The most obvious sign of technoscience is a qualitatively different connection between scientific knowledge and the activity of creating and promoting new technologies. In this case, the moral reflection of scientists acts as a channel through which knowledge is perceived in society. Such a channel is also the popularisation of scientific achievements, but it is impossible without the discussion of the problems that society raises, and they are moral.

It is a common opinion in the scientific literature that the term "legal misconduct" is interpreted in the aspect of the basic dogma of modern private law, which made it necessary to systematise this new dogma (Barnett, Koshiyama, & Treleaven, 2017). However, the analysis revealed many important common provisions attributed to the general part of the legal system. Thus, all legal facts coincide with each other in that, thanks to them, there is a certain change in the legal relations of certain persons over time.

5. Genesis as a Concept of Legal Misconduct in the Law

The historical retrospective of the formation of law goes back to antiquity. In Roman law, the foundations of the emergence of legal relations were distinguished. However, Roman jurisprudence did not develop exactly the concept that unites the different bases of legal dynamics (Cavell, 1990). The doctrine of legal facts as the beginning of law began in the first half of the 19th century in the writings of German Romanist jurists. Such actions received the first legal regulation thanks to norms and customs, later enshrined in written legislation (Berbets et al., 2021). Only from written sources can we see the process of development of legal acts and their analysis.

The adoption of a systematic methodology facilitated the development of a comprehensive set of legal concepts, which subsequently provided the foundation for recognising various institutions within private law. Influenced by this approach, it became possible to analyse legal phenomena, draw comparisons, and uncover their causes and consequences (Bortoletto et al., 2015). The conclusions drawn by positivists emerged as a result of the historical school's perspective, which viewed existing law as an intrinsic value derived from the collective experiences of previous eras.

Legal positivism has played a significant role in the evolution of legal theory. This approach allowed for the systematic organization of legal phenomena (Giddens, 1991). Even in the mid-nineteenth century, it facilitated the clarification of the logical and mathematical aspects of civil law relevant to this field of study. A legal rule can be understood as a logical integration of two components: the factual premise and the will of the state.

The judiciary was "a compromise between the desire to separate the court from the administration, to create a separate court for each class, and to make the head of the province the eye and ear of the sovereign, whose oversight and authority still extended to all aspects of local life. However, both the lower land court and the charitable board were vested with judicial powers for minor offenses".

Thus, the measure of "punishment" for a person who committed a crime was made dependent on the severity of this or that act. More dangerous crimes were supposed to be punished

"for the crime", that is, only by the level of their severity should be considered, ignoring all other circumstances.

Therefore, in the course of historical development, science becomes a productive force of society and the most important social institution, i.e., acts as a form of social consciousness and includes the relationship between scientists, scientific institutions, authorities, and also defines axiological aspects of science.

The development of science in general, as well as the increase in its role in public life, contributed to the formation of legal science as a heterogeneous field of science (Smith, 1997). Legal science is a system of knowledge about the general regularities of emergence, development, and functioning of law, state, and other state-legal phenomena. The historical development of legal science is associated with the emergence and development of law. The first fundamental works on state and law were stated by philosophers of Ancient Greece, who later became the basis for the development of legal thought (Aristotle, 2011, 2013; Plato, 1934, 2007).

Plato sought to defend the concept of just and reasoned laws as the foundation of political governance and public life. In contrast, Aristotle focused on the social and natural underpinnings of morality and law, emphasising the development of the social conditions influencing law through political and moral relationships (Salomon, 1984). Given that jurisprudence is a specialised field, ancient philosophers also highlighted the importance of legal rhetoric. Plato asserted that public discourse should be logical and reflect the subject at hand.

Following that, the theory of legal facts entered a prolonged period of stagnation. For 1500 years, no new advancements were made in the classification of the foundations of legal relations. By the end of the 19th century, scholars relied on the steadfast doctrines established by Gaius and Justinian. Although Roman law had been a subject of study in universities since the 11th century and underwent enhancements influenced by various legal systems, such as canon law and European feudal law, the development of legal fact theory remained insufficient during this time.

Back in the Middle Ages, during the formation of statehood in many European countries, legal norms were adopted in the form of "Salic Truth" in the Frankish state, "Russian Truth" in Kievan Rus, etc. Legislation improved in the process of historical development, in the context of the introduction of capitalist relations, which entailed social and economic aspects of the regulation of relations. The modern era has transformed the understanding of individual rights, making it evident that the rights of ordinary citizens are crucial, as the welfare of society relies on them. This historical shift has prompted a change in people's worldviews, leading them to seek democratic governance in place of monarchy (Little & Ogle, 2006). Consequently, this change in perspective has resulted in the establishment of republics in various countries. Additionally, a significant element of social and political transformation in the New Age is the proclamation of "Declarations of Human Rights" followed by the adoption of Constitutions. These normative legal instruments enhance the concept of the interdependence of rights, responsibilities, and societal welfare emerging from legal relations.

Another important aspect of the legal discourse is the understanding of neuroethics as an ethics of neuroscience, as going beyond bioethics, which can involve not only overcoming the biomedical nature of emerging ethical issues, but also viewing or rejecting the principles of bioethics. As an example, we can mention neuromarketing, where, through brain imaging, consumer behaviour is studied and techniques are practiced to manage it. "The number of neuromarketing studies has grown considerably in recent years. Neuroscience research in marketing studies a person's spontaneous neurophysiological responses to stimuli such as words, color combinations, smells, sounds, etc., and interprets the data to provide recommendations to improve the human interaction process. Instrumental neuromarketing studies pulse, sweating, brain reactions, pupil movement, and other spontaneous human reactions". Thus, the application of the principles of autonomy is not possible because subjects are not seen as controlling, but as dependent on unconscious motives. It can be assumed that there are categories of people whose mental capacity may be impaired for various reasons - age, illness, mood, or something else. At such times,

they begin to follow unconscious impulses in their behaviour. However, taking advantage of a person's weakness is morally unacceptable. In this case, according to the bioethical principle of vulnerability, he should be helped to make an informed decision. This principle requires balancing disadvantages, not exploiting a person's weakness for gain.

6. A Study of the Formation of Legal Relations as a Concept

The contemporary issue surrounding the establishment of the right to life in criminal law is firmly rooted in historical documents such as the U.S. Declaration of Independence, dated July 4, 1776, which affirms the equality of all individuals and their inherent rights to life, liberty, and the pursuit of happiness. Additionally, Article 25 of the Universal Declaration of Human Rights, adopted on December 10, 1948, guarantees every person access to medical care and essential social services (McGinnis, 2014). Consequently, human rights have evolved through the course of human existence and are enshrined within international law. Violations of these rights are met with stringent penalties and are classified as legal infractions within various legal systems.

The concept of legal misconduct has evolved alongside society, emerging as a response to various crises stemming from human rights violations. Aggressive actions directed at specific groups have sparked significant global conflicts and led to tragic events (Manko, 2019). Such manifestations of aggression against humanity include racism, xenophobia, genocide, and fascism, among others. At the core of these terrorist and aggressive behaviors lies the violation of human rights, which profoundly impacts society.

Today's society cannot exist without science. In times of economic, political, and environmental crisis, science is the main tool in solving important problems. In addition, the economic and social condition of the state, in particular society, depends directly on legal science, because without scientific research in the field of jurisprudence, the success of innovative development, financial stability, etc., is impossible (Gray, 2008). Today, science must take into account and respond to problems relevant in various spheres of human life.

Since the mid-20th century, the theory of legal offenses has stopped in its development. All considerations about this type of legal fact are reduced, with few exceptions, to the analysis of the opinions of scientists expressed back in the middle of the last century. This cannot be recognised as satisfactory, because despite the axiomatic nature of the existing theory of legal actions, there remains a significant number of questions regarding the very concept of legal misconduct, its varieties, and correlation with other varieties of legal facts, generating many practical and theoretical problems. In modern literature, there are single original authors' classifications of legal facts and views on legal actions that deserve attention. However, these studies are devoted, as a rule, to the theory of legal facts in general; only a small share of them falls on legal actions.

To fully harness the potential of technologically enhanced consciousness, certain aspects of neuroethics should be integrated into legal scholarship. Existing value systems are questionable because they often stem from religious foundations. Furthermore, according to a German philosopher, drawing from neuroscience data, religion can be viewed as a delusion and a systematic deception. However, since scientists have yet to provide a viable alternative to religion for fostering a cohesive society and establishing a common set of moral sentiments and values, there is a pressing need for a new ethical framework, an ethics of consciousness. Neuroscientific ethics should serve as the foundation for this framework to address the resulting anthropological and moral void.

An important aspect of the analysis of postmodernism in the legal context is deconstruction, a method that peculiarly explains law. Based on the analysis, the law in postmodernism is perceived in a particular way. Neither cognition nor consciousness is considered reliable, but is based only on illusion and belief. Therefore, the legal branch makes more of a philosophical sense than a legal one. Postmodernism operates predominantly from a religious perspective, that is, it relies on faith in the future, on the hope that goals will be achieved, and plans will be realised.

7. Conclusions

The conducted research determined the main content of the concept of legal misconduct in the law. Theoretical and methodological approaches to the study of legal science, disciplinarily organised, consisting of various fields of knowledge, which interact and simultaneously have relative independence, were analysed. It is characterised primarily by the emergence of a large number of new branches of scientific knowledge that comprise the system of legal science

The role and angle of legal misconduct in the process of historical formation in society, as well as postmodernism, are best revealed through the functions and content. On the basis of the analysis of scientific research, it is determined that the postmodern view of legal relations was formed as a result of the genesis of legal science, the context of which is the experience of previous generations and the loss of awareness of the correct values of the postmodern view.

The primary objective of philosophically meaningful bioethics and neuroethics should be, above all, a critical approach. In this context, the humanities must prioritise listening to the perspectives of scientists who, rather than focusing solely on the achievements of neuroscience, are dedicated to evaluating the ramifications of its applications.

Brain-computer neural interfaces hold promise when used alongside programmed systems for individuals with limited communication abilities. They can offer paralysed patients greater control over their environments and contribute to rehabilitation following spinal cord injuries through artificial muscle stimulation, among various other potential applications.

The primary application of neurotechnologies lies in the field of medicine; however, in the near future, brain-computer interfaces are expected to enhance human-machine communication. This innovation aims to tackle one of the pressing challenges of human adaptation to increasingly complex information and technological environments, including within a legal context. Concurrently, the early stages of developing and implementing neurotechnologies and neurointerfaces have given rise to numerous ethical, legal, socio-philosophical, and other pertinent issues. Many of these concerns fall under the broader category of social assessments of technology. While discussions around these matters are still in their infancy, their significance during the initial development of brain-computer interfaces is unmistakable. Addressing these issues early on will be crucial in identifying design flaws and preventing potential discrimination against individuals who choose to use this technology for various reasons.

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Tetiana Lien structured the scientific material, systematised the research materials in accordance with the topic of the context, and concluded the theoretical and methodological approaches to the genesis of legal science from a historical perspective.

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