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Cyberlaw 2.0: the law controlled with information

Cyberprawo 2.0: prawo kontrolowane za pomocą informacji

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Abstract

In this article, the term 'cyberlaw' does not refer to the law governing activities in cyberspace. Instead, it is used in relation to legal systems whose understanding and functioning are currently undergoing changes due to the impact of cyberspace on the real world of human activity. Although formally the law remains the same as in the past, it has changed in terms of its content and impact on society and continues to undergo radical changes. The method used to study cyber law involves observing the social transformation from voluntary interpersonal relationships to automated and anonymised inter-system interactions of a deterministic nature, and drawing realistic and rational conclusions from this transformation. The result of the study is the revelation of the specificity of cyber law as resulting from the technological conditions of cyberspace, as opposed to the law functioning in real space and corresponding to the ethical sensitivity of people living in the real world. Cyberspace includes mechanisms that enable direct regulation of everything within and outside it. One of the results of cybernetization is that everything that becomes easier through the use of digital and network technologies also becomes subject to control. The law is also undergoing this process. Losing its identity, it both regulates and is itself regulated in the process of governance. The governance of law-making, application and enforcement reveals its instrumentalisation. This means treating the law as just another resource. It is a resource of technical means used for social control.

Keywords

cyberlaw, law management, regulating law, simulation of law, automatization of law

Streszczenie

W niniejszym artykule termin „cyberprawo” nie odnosi się do prawa regulującego działalność w cyberprzestrzeni. Jest on natomiast używany w odniesieniu do systemów prawnych, których rozumienie i funkcjonowanie ulegają obecnie zmianom ze względu na wpływ cyberprzestrzeni na realny świat aktywności człowieka. Choć formalnie prawo pozostaje takie samo jak w przeszłości, zmieniło się pod względem treści i wpływu na społeczeństwo i nadal podlega radykalnym zmianom. Metoda zastosowana w badaniu

cyberprawa polega na obserwowaniu transformacji społecznej od dobrowolnych relacji interpersonalnych do zautomatyzowanych i zanonimizowanych interakcji międzysystemowych o charakterze deterministycznym oraz wyciąganiu realistycznych i racjonalnych wniosków z tej transformacji. Rezultatem badania jest ujawnienie specyfiki cyberprawa jako wynikającej z uwarunkowań technologicznych cyberprzestrzeni, w przeciwieństwie do prawa funkcjonującego w przestrzeni realnej i odpowiadającego wrażliwości etycznej ludzi żyjących w realnym świecie. Cyberprzestrzeń zawiera mechanizmy umożliwiające bezpośrednią regulację wszystkiego, co w niej i poza nią. Jednym ze skutków cybernetyzacji jest to, że wszystko, co staje się łatwiejsze dzięki wykorzystaniu technologii cyfrowych i sieciowych, również podlega kontroli. Prawo również podlega temu procesowi. Tracąc swoją tożsamość, prawo zarówno reguluje, jak i samo podlega regulacji w procesie rządzenia. Zarządzanie tworzeniem, stosowaniem i egzekwowaniem prawa ujawnia jego instrumentalizację. Oznacza to traktowanie prawa jako kolejnego zasobu. Jest ono zasobem środków technicznych służących kontroli społecznej.

Słowa kluczowe

cyberprawo, zarządzanie prawem, regulacja prawa, symulacja prawa, automatyzacja prawa

Introduction

The term 'cyberlaw' is used to designate formal and informal norms that regulate social interactions in cybernetic space (cyberspace).¹ The emergence of the so called law of cyberspace, i.e. the law regulating a new sphere of human activity, is due to the fact that cyberspace transforms real-space, which, until recently, was the only environment of human life. For two decades now, cyberspace has become an alternative environment for humanity, and especially for the most specifically human sphere: that of the mind.

Below, the term 'cyberlaw' is discussed in its less-known sense related to its status as law and not to the content of legal norms. The concept of status of law refers to the ontological foundations for the existence of law and for its binding force,² while legal norms express the content of law in general (typical) or individual (particular) circumstances.³

The status of cyberlaw is opposed to the status of law that binds really (natural law⁴), and formally (positive law).⁵

Alongside the hitherto prevailing status of real law, described by the theory of legal positivism,⁶ a new, information and communication-related status of law has been emerging.⁷ As a result, law has been ontologically reduced to quantitatively understood information and its effectivity is now limited to

¹ See B. J. Trout, *CyberLaw: A Legal Arsenal for Online Business*, World Audience Inc. New York 2007; Y. F. Lim, *Cyberspace Law: Commentaries and Materials*, Oxford 2007; E. Clark, *CyberLaw in Australia*, The Hague 2010, p. 20.

² See J. Owens, *The Doctrine of Being in the Aristotelian Metaphysics: A Study in the Greek Background of Mediaeval Thought*, Pontifical Institute of Mediaeval Studies, Toronto 1963.

³ See E. Ullman-Margalit, *The Emergence of Norms*, Oxford 1977, p. 23.

⁴ Cf. J. Finnis, *Natural Law and Natural Rights*, Oxford 1980, p. 21.

⁵ Cf. J. Raz, *The Concept of Legal System: An Introduction to the Theory of Legal System*, Oxford 1970, p. 45.

⁶ Cf. J. Austin, *Lectures on Jurisprudence: or, The Philosophy of Positive Law*, St. Clair Shores 1977, p. 42.

⁷ E. Lederman, R. Shapira, *Law, Information and Information Technology*, The Hague 2001.

communication acts.⁸ As Michio Kaku remarks, the real-life law (*law in vivo*) conformed to in the past and the artificial law (*law in vitro*) created in the 19th century have been replaced by the simulated law (*law in silico*).⁹

Law in its earlier sense, understood as a dynamic totality of obligation-related human interactions, has been rapidly losing its importance. Also law in the sense of a static totality of regulations accepted or created by a nation-state and expressed in the form of legal acts, has been gradually going out of use. At present, law in both those senses is replaced by information and communication-related activities of controlling and regulating character that emerge on the extra-state and suprastate levels. Sometimes, the activities in question are later legitimized and given the form of positive law by a state's legislative bodies (parliaments and governments) and implemented by a state's judiciary (courts and tribunals). This process concerns primarily those parts of law that are related to new technologies.¹⁰

According to Gunther Teubner, the functioning of law consists in a continuous circulation of information: in this process the subsequent communications flow from the preceding ones and co-determine the following ones. Teubner believes that law is a network of information exchange that consists in a circulation of meanings¹¹ according to specific principles that distinguish the legal discourse from other varieties of social discourse. Joanna Jemielniak observes that, in Teubner's view, meanings in the legal discourse are always interrelated, which is described as their autoreferentiality. A legal system is thus based on unceasing communication: it is an accumulation of communication acts following from one another.¹²

Methods of social influence

As sophisticated technologies are spreading, interpersonal relationships are becoming increasingly unified and automatized: consciousness and freedom is being replaced by determinism. The 'human factor' in the relationships becomes more and more limited, while their mechanical, technical aspect is strengthened.¹³ Mechanical behaviors of human beings are more susceptible to regulation, or even programming, than authentic and autonomous human actions. In a technology-permeated environment, a temptation to replace persuasion by mechanical control is frequently yielded to. While mechanical

⁸ For instance, although he did not propose a theory of law, Jürgen Habermas addressed the conditions of human conduct and the ways of regulating them. In his approach to postmodern society, he referred to language as the 'architect' of all socialization processes. See J. Habermas, *Theorie des kommunikativen Handelns*, vol. 1, *Handlungsrationalität und gesellschaftliche Rationalisierung*, Suhrkamp Verlag, Frankfurt am Main 1981.

⁹ The proposed distinction refers to the categories used by Michio Kaku. Cf. M. Kaku, *Visions: How Science Will Revolutionize the 21st Century*, New York 1998, p. 158.

¹⁰ The terms used in this connection are: Information Technology Law, Information and Communication Technology Law i Computer Law. See I.M. Portela, M.M. Cruz-Cunha (eds.), *Information Communication Technology Law, Protection and Access Rights: Global Approaches and Issues*, Information Science Reference, New York 2010; C. Reed, J. Angel (eds.), *Computer Law: The Law and Regulation of Information Technology*, Oxford 2007.

¹¹ Cf. J. Jemielniak, *Wykładnia prawa jako źródło informacji w świetle poglądów zachodniej doktryny*, in W. Góralczyk (ed.), *Prawo informacji - prawo do informacji*, Warszawa 2006, p. 59.

¹² See G. Teubner, *Transformation of Law in the Welfare State*, in T. Daintlith, G. Teubner (eds.), *Contract in Organisation*, Berlin, New York 1986.

¹³ See D. Reiling, *Technology for Justice: How Information Technology Can Support Judicial Reform*, Leiden 2010.

control consists in eliciting an immediate response (conditioning),¹⁴ persuasion is based on a time-consuming process of education.

A manifold and permanent connection of the human mind to electronic communication media (e.g. smartphones) creates an occasion to control it with digitally processed information. In an information environment, including cyberspace as the space of simulation and control, information is defined as any non-random bit sequence, both computer-generated and made by man. So defined, information can represent objects (inform), but also stimulate behaviors (controls).¹⁵

The acts of regulation through information that play the role of quasi-law include, among others, technical norms, corporation standards, trade specifications, management guidelines, good practices, safety policies, statistical indices, operational procedures, or infrastructure interactions.¹⁶ Those and other determinants, due to their interoperation significance for the system, their being anonymously produced by coordinators and used without any alternative in the network environment, as well as their influence on human attitudes, lead to depreciation of the traditional legal order in a state, at the same time constituting a new global order. Its significance and range correspond to those of the Global Information Infrastructure. The globally integrated and unified framework designed to propagate information signals determines interpretation, modification and creation of the norms of human conduct: customary, moral, legal, or even religious. Shaping opinions and attitudes, the global information sphere plays the role of a super-regulator of all types of behaviors: individual and collective, private and public, as well as social and state-related.¹⁷ The global information sphere is turning into a cyberlaw susceptible to instrumental manipulations by the most influential global actors, including information technology corporations, information agencies, and media concerns. Their activities do not meet the criteria of democracy and are not undertaken in the public interest.

The world information and computer science monopolies are not public law entities, but private law entities. Their domestic regulations and mutual agreements, described as standards, are incorporated, as accomplished facts, into the architecture of the whole network environment, the tools used in this environment, and the services it provides.¹⁸ With time, those 'facts' are not only

¹⁴ Society can be understood through a study of information exchange, i.e. communication, See N. Wiener, *The Human Use of Human Beings: Cybernetics and Society*, Boston 1954, p.16.

¹⁵ See Ch. Morris, *Signs, Language and Behavior*, New York 1946.

¹⁶ J. P. M. Bonnici, *Self-Regulation in Cyberspace*, The Hague 2008.

¹⁷ As early as 1967, Marshall McLuhan and Quentin Fiore observed: "The medium, or process, of our time is reshaping and restructuring patterns of social interdependence and every aspect of our personal life. It is forcing us to reconsider and reevaluate practically every thought, every action, and every institution formerly taken for granted. Everything is changing." M. McLuhan, Q. Fiore, *The Medium is the Massage: An Inventory of Effects*, New York 1967, p. 8.

¹⁸ Global standardization in the field of information technology is conducted by: The American National Standards Institute (ANSI), The Institute of Electrical and Electronic Engineers (IEEE), International Electrotechnical Commission (IEC), and Internet Architecture Board (IAB). The most important organizations that coordinate work on the Internet standards are: The Internet Engineering Task Force (IETF), The World Wide Web Consortium (W3C), Internet Corporation for Assigned Names and Numbers (ICANN), The European Telecommunications Standards Institute (ETSI). The above mentioned institutions are sources of formal regulation or actual organization of the Internet and its various tools. Information technology standards are closed or open guidelines, for creators and manufacturers of software, on protocols, interfaces and data formats.

readily accepted by private users (mostly consumers), but also are imposed on the public sector entities, mainly nation-states.¹⁹

The foundations of cyberlaw discussed here are technological, and not ethical; cyberlaw is created at the private level, and not at the public one; and exerts its regulating power through information, and not through persuasion. As such, cyberlaw bears more resemblance to top-down imposed administration standards than to bottom-up accepted norms of conduct. Cyberlaw come into being as a result of combining computer science with social philosophy.²⁰ Removing barriers and limitations, information technology makes the environment globally susceptible to information-cybernetic influences. In cyberspace, as Lawrence Lessig observed, code becomes law.²¹ Consequently, digital encoding of information can be used to put human behavior in cyberspace and, through cyberspace, also in real-space under control.

With a growing predominance of cyberspace over real-space, i.e., as the human mind becomes increasingly cluttered with virtual objects and processes, deeply hidden digital codes become more important than generally available paper codes. This tendency is strengthened by the fact that digital codes can be easily modeled, while paper codes must be painstakingly adjusted. Lessig rejects a popular belief that cyberspace cannot be effectively regulated. Instead, he claims that it can be regulated not through law, but using a computer code that connects software and hardware.²² Because the digital environment, unlike the analog one, is fully definable, and may be or, to a large extent, already is, much more carefully controlled and regulated. The digital environment is both panoptic and netocratic.

Cybernetics

Cybernetics is a field of study and application of possibilities to control human behavior with information signals, basing on analogies between humans, animals and machines. Contemporary social cybernetics is a result of combining social philosophy with information technology solutions.²³

Polish researchers point to the fact that the contemporary debates on social cybernetics testify to ignorance concerning peculiarities of the collective life of the *zoon politicon* species and to the erroneous understanding of the canon of sociology as a science of society and culture. The debates also show that there is a tendency to perceive society and culture as systems that may be controlled like a highly automated technological device.²⁴ Upon this view, social, economic, cultural, and legal cybernetics, which has been developed both on a local but also on a global scale, tend to reduce the role of human beings to that of participants of a simulated and controlled process. The level of technological progress, including synchronization with computers and integration with the network, determines the position of an individual in the totality of those processes.

¹⁹ It is more and more often admitted that any Internet activity, and also any extra-Internet but Internet-related one, should be regulated not only on organizational standards, technological norms, market specifications, and ethical codes but also by national and international law. Cf. A. Murray, *Information Technology Law*, Oxford 2010, p. 73.

²⁰ See B.F. Trentowski, *Stosunek filozofii do cybernetyki*, Warszawa 2014.

²¹ See L. Lessig, *Code: and Other Laws of Cyberspace*, New York 2006.

²² Cf. *ibidem*, p. 1f.

²³ Cf. J. Kossecki (ed.), *Cybernetyka społeczna*, Kielce 1976, p. 22.

²⁴ Cf. J. Goćkowski, K. M. Machowska, *Utopie klasyczne i planowanie wolności* [in:] Chyrowicz (ed.), *Etyka i technika w poszukiwaniu ludzkiej doskonałości*, Lublin 2004, p.13.

'Non-electronized' individuals risk remaining outside the system of resource distribution and vegetating outside the society based on the common culture.²⁵

The organizing of social life is accompanied by the perfecting of means to collect, process, and transmit information. Information and communication technologies, such as telegraph, date back as early as the 19th century; the 20th century witnessed the emergence of the Internet, while in the 21st century virtual and cybernetic technologies (Web Semantics) have been developing.²⁶ Cybernetics and computer science enable perfect strategic planning, tactical programming, and operational planning. Information technology, reducing the significance of particular places in space and moments in time, liberates human beings from the geographical and historical context of their lives.²⁷ Everyone can 'be' everywhere and 'get' there immediately, regardless of where and when they actually are. A possibility to individually disregard the circumstances of place and time leads to obliteration of geographical and historical awareness in whole communities. Simultaneously, personal identities and national sovereignties also become weakened or even disappear. Such a loss of cultural subjectivity necessarily results in a loss of political and legal subjectivity.

Nowadays, cybertechnology is the most advanced and widespread technology. It is used to control biological, mechanical, and social systems with information, which results in creating a cyberworld where cyberindividuals,²⁸ who are not entirely themselves, lead their cyberlives; their cybercommunities are gradually losing their subjectivity, new cyberstates become less and less sovereign, and cyberdemocracies are increasingly powerless. The emerging cyberlaw and cyberethics become increasingly removed from their 'originals': the traditional law and ethics. It seems that the new global cyberculture of law and global cybercivilization have already come into being.²⁹

Cyberspace

Cyberspace as information space can be approached either functionally or structurally. Functionally, it is the environment of the most perfect ever (remote, continuous, correlated, imperceptible, and automated) control over human consciousness and, consequently, over freedom. Structurally, cyberspace is a complex of globally standardized and computer integrated sense impressions and mental representations which enables creation and sharing of simulations in every area of human activity.

Combining those two approaches, one can define cyberspace as an environment, artificially impressed on human beings through their senses and operationally represented by their minds, of a simulated and controlled activity. Cyberspace is created by its architects that set standards (protocols), its

²⁵ Cf. J. Janowski, *Cyberkultura prawa: Współczesne problemy filozofii i informatyki prawa*, Warszawa 2012, p.173.

²⁶ Cf. D. Taniar, J. W. Rahayu, *Web Semantics Ontology*, London 2006, p. 28.

²⁷ Kevin Werbach was one of the first to discuss the importance of an architecture of a system for its function in the context of the Internet. He claimed that in the case of the Internet "architecture is politics." K. Werbach, *The Architecture of the Internet 2.0*, in Release 1.10 Esther Dyson's Monthly Report, February 1999 (site now discontinued); quoted in J. Hofmök, *Internet jako nowe dobro wspólne*, Warszawa 2009, p.108.

²⁸ N. Zhong, J. Liu (eds.), *Intelligent Agent Technology: Systems, Methodologies, and Tools*. Proceedings of the 1st Asia-Pacific Conference on IAT, Singapore 2000.

²⁹ B. J. Trout, K. Torke, *CyberLaw: A Legal Arsenal for Online Business*, New York 2007.

distributors that transmit signals and its users that fill it with content. On each of those levels, global actors are of key importance.

Due to its architecture (design) and infrastructure (equipment), cyberspace provides unprecedented opportunities for creating far-reaching impact through information. Cyberspace shows a double potential: that of violence and, correspondingly, that of liberation. Which of those potentials is prevailing? Idealists point to the liberating potential, while realists, basing on experience, warn against the enslaving, violence-related potential. There are also supporters of a mid-way position who claim that both potentials ultimately compensate one another. The problem, however, cannot be solved by giving such simple answers; to address it in depth, it is necessary to make distinctions concerning the range of the network and the levels of its impact.

Cyberspace is both a global and local, a mass-sale and individual environment of surveillance (panopticon-like environment³⁰) and management (netocratic environment³¹). Cyberspace users have no effective means of opposition against various forms and degrees of invigilation and manipulation: if they wish to continue using cyberspace, they have to accept them. No cyberspace user can protect themselves from cyberinvigilation and cybermanipulation as integral and complementary elements of cyberviolence.

Cyberspace provides the most favorable environment for unlimited information interactions. Technology has made it possible to create the non-territorial, atemporal and immaterial space in which sovereign domination and jurisdiction of a nation-state is not respected.³² Cyberlaw, discussed in this paper, does not persuade nor does it educate (does not give freedom), but it controls and determines (creates necessities). In contradistinction to the traditional law that was rooted in ethics, cyberlaw stems from technology. A transition from the organization of social life based on ethics to that based on technology is the essence of the widely promoted idea of information civilization. In such a civilization, everything, including law, is reduced to information that may be freely used to organize any area of activity. This means that not only can law be used to control, but law itself may be controlled. In the global supersystem, law is, alternately, the controlling system and the controlled one, according to the network level that prevails at a given moment.

The migration from the real world to the virtual world has just begun, but more and more human interactions take place in the global network. Its architecture and equipment will facilitate infrastructural regulation of extra- and super-legal character, ultimately determining, physically and psychologically, human activities and their results.

Cybernetization of law

The cybernetization of law is a process of replacing legal methods of social life organization by cybernetic management techniques.³³ Cybernetics, understood as an abstract science and a sophisticated technology related to the

³⁰ Cf. M. Foucault, *Discipline and Punish: The Birth of the Prison*, trans. A. Sheridan, New York 1978, p. 201.

³¹ See A. Bard, J. Söderqvist, *Netocracy: The New Power Elite and Life after Capitalism*, London 2002.

³² Cf. D. Jerker, B. Svantesson, *Private International Law and the Internet*, The Hague 2007, p. 91f.

³³ See G. Teubner, *Societal Constitutionalism: Alternatives to State-Centered Constitutional Theory?*, [in:] Ch. Joerges, I. J. Sand, G. Teubner (eds.), *Transnational Governance and Constitutionalism*, Oxford 2004, pp. 3-28.

systems of control based on processing of the content and form of information³⁴, is used in the system of law to exert control, at the same time controlling this system. In feedback systems, including social systems, law is both the controlling (organizing) system and the controlled (organized) one. The use of cybernetics in law as a control instrument is addressed by legal cybernetics, while the application of cybernetics to controlling law falls into the broader scope of cybernetics of law.

Cybernetization of law results in its modification, as cyberlaw borrows extra-legal cybernetic methods to achieve its goals; at the same time, if used to achieve extra-legal goals, law is cybernetically instrumentalized. Autonomous cybernetization changes law from within, while heteronomous cybernetization changes it from without; in the former case, the role of law is strengthened, in the latter, it is weakened.

The effect of cybernetization on law is intensified by growing specialization and an increasingly widespread use of cybernetics. The degree of specialization is dramatically raised by ICT devices. An increase in the use of cybernetics, however, does not translate into a greater knowledge about it, but results in a more widespread hidden influence it exerts. The less cybernetics is known and understood, the more effectively it can be used. Similarly, the less the effect of cybernetics on law is recognized, the stronger external influence on law it can exert.

Information and communication technology is the most important factor that contributes to spreading cybernetics and, consequently, to law becoming networked. As a result, law loses its reality and autonomy, being transformed into an information-based regulator that is called 'law' only out of habit. In the infosphere, law is just one of the components of our civilization undergoing a similar process, also becoming regulators.

In the sense adopted here, cyberlaw is the law regulated and regulating through information that is the main fabric of the global civilization called information civilization. The main modification in the status of law consists in its ceasing to persuade, i.e. to induce individuals to consciously and voluntarily follow the norms of conduct, and beginning to determine by enforcing standards through technological infrastructure. This process, known as Digital Rights Management (DRM), is implemented with the Services Oriented Architecture (SOA).

In the process of cybernetization, law is gradually taking the form of digital and networked information service that requires effective management, no longer fulfilling its role of a justice-based regulator of conscious and voluntary human conduct. Such a transformation of law occurred in cyberspace which, involving the human mind in a continuous feedback loop, has become the environment of close surveillance and total control.

Conclusion

An analysis of the evolution of views on law over the last centuries shows how legal positivism prepared the ground for postmodernism. The views that law is rooted not in an act of reason, but in that of will, and that it is not necessary but conventional, have led to its instrumentalization. Instrumentalization and, at the same time, virtualization of law as a tool to exercise power and as a project to

³⁴ N. Wiener, *op.cit.*, pp.105-111.

organize society is an expression of cybernetization of law.³⁵ The hiper-real, cybernetized, virtual, simulated and regulated law can be both controlled and used to control.

The fundamental problem of the emerging global culture of law is related to its cybernetization and consists in the general acceptance of simulated human interactions and of the control over those interactions. The infosphere, becoming the environment of human existence, has deformed law: the new law does no longer refer to real social interactions and formal guarantees of compliance, while execution of law has ceased to meet the requirements of rationality. Law cannot work correctly in the context of simulated experience and acquiescence to inconsistent thinking.³⁶ Cyberlaw remains law only nominally, as it has become part of the broader mechanisms of regulation through information and is concerned, to an increasingly large extent, with objects and processes in the information environment called information civilization.

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³⁵ See J. Janowski, *Cybernetyzacja prawa. [...] X-lecie CBKE: Księga pamiątkowa z okazji dziesięciolecia Centrum Badań Problemów Prawnych i Ekonomicznych Komunikacji Elektronicznej i Studenckiego Koła Naukowego – Blok prawa komputerowego*, Wrocław 2012, pp. 394-408.

³⁶ Such phenomena are intensified in the process of the postmodernization of law, i.e. the emergence of postmodern and postpositivistic legal culture. It is characterized by a 'liberal' approach to facts and disregard of two-valued logic. Cf. L. Morawski, *Co może dać nauce prawa postmodernizm?*, Toruń 2001, p. 27. See also Jean-François Lyotard, *The Postmodern Explained to Children: Correspondence 1982-1985*, trans. Th. M. Pefanis, Eastbourne 1992.

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