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Introduction.

Applications of Artificial Intelligence in Various Areas of Social, Media, Cultural, Political and Economic Life

Wstęp.

Zastosowania sztucznej inteligencji w różnych obszarach życia społecznego, medialnego, kulturalnego, politycznego i gospodarczego

This bilingual special issue of (Media and Society) devoted to the challenges that the rising of artificial intelligence poses to contemporary societies provides the readership with a broad overlook over issues that are dominating the political and public debate and that will still be over the table in the next years. The contributions included in the publication, which is meant to be a cornerstone for sociologists, social psychologists, political scientists, media experts, legal scholars, and practitioners, are largely drawn from the annual international scientific media conference organized at the University of Bielsko-Biała (Poland).

Disinformation, which can appear in various forms such as written stories, radio broadcasts or social media posts, is amplified by the proliferation of deep fakes. The impact of AI-driven deep fakes on disinformation campaigns is explored by **Glen Segell** in an article that focuses on Iraq. The author discusses the theoretical and methodological aspects of disinformation, emphasizing the need for tools to detect and regulate it. Additionally, the paper provides concrete examples of how deep fakes could harm Iraqi society, affecting elections, social cohesion, trust and media credibility.

Miroslava Rudyk investigates the influence of modern technologies on war reporting. The author analyzes various technological advancements used in covering the conflict in Ukraine, including AI, data analysis algorithms, virtual reality technologies, social media, blogs and drones. The work highlights the risks related to information warfare, such as cyberattacks, disinformation and fake news.

The contribution by **Alexander Golikov** is devoted to the emergence of the phenomenon of posthuman politics, focusing on the study of new forms of media subjectivity. The author identifies several processes that significantly and ontologically transform the communicative space as the world of media. The shifts in “posthuman” politics relative to human ones are then scrutinized: human subjects lose confidence in the political act in any of its expressions; the political ceases to be taken “seriously”, alienation begins to concern even formal communicative acts on the Internet.

Oksana Zhuravska presents findings from a study examining the role and functioning of crisis-time memes, particularly during the full-scale invasion of Ukraine, in Polish news websites Rzeczpospolita, Fakt, and WP Wiadomości. The article also explores related primary narratives in the context of media tabloidization, and the influence of stylistics and practices from both citizen journalism and social networks. The author prepared linguistic, culturological, thematic, and content analyses indicating that strategies of meme usage are influenced by their socio-cultural nature as unique expressions of public opinion (), as well as by the editorial policy of the media and journalists’ purposes.

Jarosław Jabłonka focuses on the challenges and threats of modern information technologies in the context of the imitation of human cognitive processes. The problem of imitation of human cognitive processes—highlights the author—is a central problem in the development of information technologies, and therefore is an important part of contemporary socio-technological reality. The starting point of the paper is the assumption that the development of AI involves a kind of feedback between the imitating technology and the imitated human cognitive processes. The contribution provides a framework description of the dynamics of these mutual interactions in selected areas based on the literature on the subject.

Artificial intelligence applications are increasingly being employed in the daily work of editorial teams and are used to write articles, create graphics, conduct research, and even make key editorial decisions regarding the form and timing of

publication. This not only changes the way media operates but also the entire model of mass communication, by introducing a new independent element between the sender and the receiver, which is an AI tool. Such deep intervention in journalists' work practices requires reflection on ethical aspects and the development of new professional standards. **Michał Chlebowski** investigates the use of AI in news media compared with journalistic standards and editorial practices. The paper highlights the main areas in which AI is transforming contemporary journalism worldwide and to demonstrate how editorial teams and journalistic associations are attempting to respond to this challenge by creating new guidelines for journalists' work.

The use of AI in local and regional media is explored by a study presented by **Krzysztof Kowalik** through a review of scientific literature performed in the Web of Science and Scopus databases. Advanced Google search operators were also used to find industry reports, and scattered data were merged to get results. In his survey, the author considered a list of media titles and groups, mainly from Europe and North America, along with a list of the functionalities of AI tools. On this basis, an attempt was made to categorize them and determine the trend in the activities of local and regional media in using artificial intelligence. Findings show that research is conducted primarily on national media. The results presented in this article fill a cognitive gap that no studies on local and regional titles have addressed before.

Paweł Pajor addresses the evolution of social engineering in the context of the dynamic development of generative AI and analyzes new synthetic forms of communication—i.e. deep fakes—that are increasingly used to manipulate opinions, attitudes, and social behaviors, including unauthorized digital surveillance. Initially considered a scientific field representing the practical aspect of the application of sociological knowledge, socio-technique is now often seen as a tool for manipulation and disinformation. Nevertheless, the author gathers that the evolution of generative AI and its integration with classic socio-technique techniques and strategies may shift the focus of sociology. This change could extend the field of sociology beyond the areas traditionally reserved for research and description of social behaviors and may open new opportunities for practical use of sociological knowledge in initiating and directing social changes. The synergy of knowledge and technology within social engineering potentially allows sociology to develop further as a practical science, and enables precise diagnosing, designing, predicting, and implementing rational changes that serve the public good and solve social problems.

The use of algorithms, as common practice on the modern Internet, is investigated by **Ilona Dąbrowska**. Starting from the assumption that more and more perfect systems constantly monitor our e-behaviors and analyze them to create mathematical formulas that define each network user, the author finds that, because of the dynamic development of AI, we are inundated with personalized content and trapped in information bubbles. Is there still a place for hermeneutics in the algorithmic cyber world? In the era of the formation of the information society, are we able

to autonomously search, critically evaluate and consume content? The contribution seeks to answer these and other questions related to algorithmization, like issues related to the origins, development and popularization of Internet algorithms. The escalation of the scope of areas in which new technologies appear means that more and more spheres of human life are subject to algorithmization, both in professional and private contexts. The conclusions confirm that digitization, datafication and algorithmization are inevitable, therefore it is important to educate about the operation of new technologies, their possibilities and threats, as well as to create mechanisms to protect the individual against the threats related to new technologies.

Through literature review and content analysis of industry articles, commentaries and blogs, as well as his own experience, **Przemysław Szews** identifies the main areas of digital marketing where AI is most helpful, like ML. The author's observations and insights drawn by the literature review are juxtaposed with the results of research conducted among practitioners—people working in digital marketing in Poland and around the world, presenting current trends and marketers' behavior. The topic is also exemplified by a case study showing the possibilities of selected applications and AI tools in content and digital marketing.

Marek Mikołajec analyzes the linguistic efficiency of AI chats in the context of creating statements in particular literary conventions and styles on the same thematic sample, and discusses them with reference to traditional stylistics, the achievements of structuralism and post-structuralism. The paper also summarizes reflections and workshop experiments as part of academic teaching—including as part of creative writing subjects in the fields of digital communication, promotional and crisis communication at the University of Silesia—and will allow the presentation of ML operation patterns and also certain limitations focusing especially on the use of functions and poetic license by AI in the context of natural language processing (NLP).

Since AI has been revolutionizing new areas of people's lives for several years now, bringing unprecedented opportunities, **Katarzyna Garwol** explores the use of AI applications in various fields of art, including film, theater, music and fine arts. Just a few years ago, only the most expensive productions could afford to use AI, but now access to this technology is common and there are many applications on the market, including free ones, that allow you to generate images, sound, or text. She gathers that, while using AI applications may be fascinating for creators, there is a threat that it may replace their work, creating works in such a perfect way as if they were made by humans. The article analyzes what AI is and how it is currently used in various fields of art and presents also the findings of a survey conducted among students of Visual Arts at the University of Rzeszów aimed to learn the creators' opinion on the opportunities and threats posed by AI to artists' work.

Agnieszka Marzęda characterizes the expectations of the youngest towards modern technologies and predicts that, in the coming years, technological development will bring significant changes in various sectors—inter alia in business—helping at the same time to discover new potentials in human capital. She points out the need to set ethical standards for AI, considering different perspectives and preventing impact on discrimination or privacy.

In today's globalized world, the media plays a key role in shaping public opinion and democratic processes. However, with the progressing digitization and their growing reach, the media are increasingly becoming an arena of political struggle, as well as a machine producing huge amounts of manipulation, propaganda, disinformation, etc. On such a basis, **Paulina Zaborowska** analyzes the mechanisms used by the media in political terms, showing how these techniques shape beliefs and limit the ability to make conscious choices. Additionally, the author offers examples of media manipulation in American politics, including disinformation campaigns and media control before and during wars.

Berenika Dyczek suggests new directions in digital sociology that integrate social sciences and engineering-technical disciplines in studying contemporary social phenomena. She believes that traditional sociology falls short in terms of methods that can effectively analyze phenomena while engineers utilize computer science methods for such analyses. Nonetheless, the author finds that researchers are increasingly embracing an approach that generates new methods and gives birth to emerging sub disciplines, like digital sociology, computational social science and digital social science.

Cutting-edge technologies have a big influence also on the labor market. In the nearest five years, only employees which will have competencies to adjust to quick changes of demands of employers will be found on that kind of labor market. In this context digital competencies are one of the most significant of employee competencies. **Karolina Pawłowska-Cyprysiak** and **Katarzyna Hildt-Ciupińska** illustrate which digital competencies are demanded in the modern labor market from the perspective of employers. The authors carried out a questionnaire survey aimed to assess which digital competencies are required in the modern labor market while considering competencies necessary in the 4.0 industry. The results indicate that digital competencies are considered a priority for the future, with cyber security considered a key digital feature, followed by so-called "soft" competencies. The study also shows that employees' digital competencies—basic and advanced—are assessed by employers as low level. The survey concludes that older employees are perceived as those employees with the lowest digital competencies of all employees.

Given its increasing importance in recent years, inter alia in robotics, **Wiktoria Cebula**, **Katarzyna Piela** and **Julia Radoń** scrutinize the role of AI in interpersonal relationships. One area where AI has been applied is in the development of "therapeutic robots", which are designed to assist individuals with mental or physical disabilities. Therapeutic

robots are programmed to provide emotional support, assist with daily tasks, and even engage in social interactions with humans. Another area where AI has been applied is in the development of “sex robots”, which are designed for sexual companionship. Sex robots are equipped with advanced AI technology that allows them to mimic human behavior and respond to stimuli in a way that simulates a human partner. Despite the potential benefits of such robots, there are some caveats about impact on human relationships.

The last part of the issue included analyses, sketches and articles prepared by young researchers. **Aleksandra Półciwiatek** emphasizes the need to remodel the education system. AI-related tools are now used by both students and teachers. Polish language teachers reach for innovative AI generators to get children and teenagers more involved in the didactic process. The article includes examples of the use of AI elements in the integrating content during Polish language lessons. In planning the didactic process, teachers consider the needs of students who are digital natives for whom maintaining attention and concentration is a challenge.

The paper written by **Karolina Górny** summarizes how new technologies and new humanities can change the approach to teaching literature in Polish elementary and secondary school. The contribution focuses on the benefits of increased use of new technologies and a new way of thinking about the educational content. The author presents a fresh approach to the concept of “new humanities” developing in Polish literature by Ryszard Nycz. The article tries to answer the question about possibilities of strengthening students’ creativity in Polish schools by introducing innovative activities in teaching.

Finally, **Nataliia Dovbysh** analyzes the discourse of social capital in the Ukrainian media space. The research has employed different methods of content analysis, analysis and synthesis, typology, generalization and comparison, modeling, and Google analysis tools to track the number, frequency, style, volume of published material that contains the construct “social capital”. Social capital is proposed as a form of capital that can be converted into goods, that is, building up social capital is important for the further stabilization of social relations and the restoration of other forms of capital. The study concludes that the scope of the concept of “social capital” is the most widely used in the field of science. A positive trend is observed in the Ukrainian media space: an increase in the frequency of use of the term “social capital” in scientific and journalistic sources.