Introduction

For many persons from the "digital natives" generation, i.e., born after the creation of the internet, if something or someone cannot be found on the Web, then this someone or something certainly does not exist. This book, prepared chiefly by authors from the circle of "digital emigrants", is an attempt to understand how the digital revolution has changed the media and whether and to what extent it can have an impact on shaping attitudes and habits of physical activity in this age group of media content consumers. There is a fairly common belief that the media, particularly the internet, are the main competitor of this type of leisure. If so, it should also be considered whether such messages can encourage young individuals to take up physical activity.

The main objective of the scientific project financed by the Ministry of Science and Higher Education, "The Role of the Media in Shaping Physical Activity and Pro-Sport Interests in the Academic Environment", was to examine the impact of media messages on interests, preferences, and, primarily, the attitudes of academic youth related to sports and physical activity. According to the researchers involved in the project, the problem seems significant because the media are radically changing. The birth of the Internet has made us constantly surprised and monitor the digital revolution's consequences. These technologies result in, e.g., media convergence and, at the same time, divergence. The former is a phenomenon of merging previously separate sectors, such as telecommunications, broadcasting, television, and information technology (ITC). Consequently, the existing barriers, until recently separating three different social, economic, and legal entities, are disappearing. The latter means that technological capabilities make the same content reach recipients on various reception levels, i.e., terrestrial radio and television, satellite, cable, mobile telephony, other mobile devices, or the internet.

One of the effects of these transformations is the phenomenon of changing the forms and platforms of media consumption, especially among young persons belonging to the "Z" generation. Last but not least, the communication model also changes. Digital media are characterised by interactivity, enabling everyone to transmit content. Hence, it can be said that, first of all, anyone can become a sender. Secondly, the message is individualised (personalised), which means everyone can receive content in a one-to-many or one-to-one scheme. It means that in the era of digital media, it is possible to personalise the message. The recipient can independently shape the programme he/she receives. Finally, it should be stressed that digital media enable asynchronous communication. The content can be available at a place and time freely chosen by the recipient. That is why there is talk of non-linear pull media instead of the media called linear push media. Furthermore, it should be emphasised that various forms of provided services characterise the digital age. In addition to mainstream media services, personalised messaging is observed, a combination of linear and non-linear services.

However, the internet is not only a source of information, but also – as it seems to have been shown especially by the coronavirus pandemic and subsequent lockdowns

– a space for entertainment, culture, education, or even the public sphere, for creating identity, image, and relationships. Therefore, it can be hypothesised that Generation Z (i.e., individuals born after 1995, also known as Generation C, from the English word "connected") lead basically a "parallel life". A common feature is, of course, the date of birth, but it falls after the invention of the Internet. Persons of this generation do not know the world without the network. The keyword that characterises this group is mobility, in a literal and metaphorical sense. It sometimes means difficulties with concentration, logical thinking, or even communication with the real world. However, on the other hand, paradoxically, a lot of creativity, especially in the sphere of internet activity, and a more realistic approach to life.[1]

The available research showed that a small percentage of students in Poland, i.e., representatives of the "Z" generation, have basic knowledge about their own physical fitness, the advantages resulting from physical activity in various periods of ontogenetic human development, the skills of physical exercise, and they practise simple free-time forms in adult life.

However, little was known about the impact of media messages on academic youth's interests, preferences, and especially attitudes related to sport and physical activity. The information gap in this area should be considered a severe deficiency, which needs to be comprehensively filled. In this context, the issue of how new media affect the undertaking of broadly understood physical activity and the formation of pro-health attitudes required examination. The answer to the research question was crucial to determine in what forms and at what levels of communication good practices implemented in academic sports associations should be effectively disseminated to reach the target group. Therefore, it is about creating and examining the multidirectional and multidimensional platforms enabling the exchange of information and knowledge, thus implementing the postulate of education and monitoring of the academic environment's physical condition and pro-health attitudes.

The project "The Role of the Media in Shaping Physical Activity and Pro-Sport Interests in the Academic Environment" assumed, first of all, to diagnose the existing state of affairs in terms of the presence of content on academic sport in the media. For this purpose, quantitative and qualitative analysis was carried out on information programmes present in mainstream broadcasting and thematic sports channels. Secondly, the expectations of the target group in this respect required examination. Therefore, an attempt was made by surveying students in selected academic centres to determine the sources from which they draw information about sports and how their interest in sports disciplines and events, expectations, tastes, and preferences related to academic media messages on sporting activity and pro-health attitudes are shaped.

Based on the results of this research, an academic audio-visual sports programme entitled "AZS Go!" was analysed. It is treated as a tool for monitoring and archiving

[1] D. Kuczerska, K. Smoląg, *Oferty pracy a oczekiwania potencjalnych pracowników z pokolenia Y i Z*, "Zeszyty Naukowe Politechniki Częstochowskiej, Zarządzanie" 2018, no. 31, pp. 134–144, https://wz.pcz.pl/znwz/files/z31/11.pdf (accessed: 01.12.2020).

Poland's most important academic sports events and collecting experiences related to scholarly communication in sport.

The research team faced many research questions. First of all, how are the interests, preferences, and attitudes of university youth in academic sport and a healthy lifestyle shaped? To what extent does the current media offer related to the mentioned topics remain compatible with them (at the level of national and academic media)? What are the strengths and weaknesses of the Polish system of media messages regarding academic sport and a healthy lifestyle? What are the social and civilisational opportunities and threats related to the current state of the mentioned system, particularly the communication practices disseminated within it?

Secondly, attempts were made to answer the question to what extent contemporary university audio-visual media can support the project of influencing the student community in popularising physical activity? How can they be used, and what effects can be achieved with them? To what extent can contemporary social media (available on the internet) support the project of influencing the student environment by popularising physical activity? How can they be used, and what effects can be achieved with them? How can the information selection and thematic scope be shaped to effectively influence the student community in sports promotion? How to create a programme framework for effective acquisition of competencies in this area by persons creating university sports broadcasts and interested students? Finally, will the creation of organisational conditions for media ventures translate into making – from information issues and presentation of good practices – an area of activity and responsibility of each of us to an independent, lifelong process of physical education, and will it become an element of integrating individuals within the family, local, and nationwide communities to increase health education in Poland?

The book that we give the readers primarily aims to disseminate and internationalise the research results obtained during the realisation of the scientific grant "The Role of the Media in Shaping Physical Activity and Pro-Sport Interests in the Academic Environment". This book is certainly not and does not even aspire to be a recipe or guide on living a healthy and active life and avoiding any adverse effects of media and digital technology abuse – including internet addiction. However, we hope that the presented analyses, findings, and conclusions will contribute to the proper use of all available media communication channels to improve the physical condition and health of the "Z" ("C") generation representatives and subsequent generations. Let us remember that these individuals do not know life and the world without the internet, yet they must function in real life, preferably in perfect physical condition and health.

Chapter I. **Media and Digital Revolution**

Jędrzej Skrzypczak

1. Introduction[2]

Regardless of whether we assume that journalism and media were born with the so-called "pre-press" 3450 years ago,[3] in the mid-sixteenth century[4] with the advent of Venetian *gazettes*, in the seventeenth century, when the first newspapers appeared in today's sense, or only in the nineteenth century with the beginning of the mass press and employing reporters by periodicals appearing on the market[5] – the discussion about the condition of journalism and media transformations has been going on almost from the start. And this is not the end of the mass media rearrangement.

2. Media History is Accelerating

The history of the media accelerated with the birth of electronic media – first, the radio (the 1920s) and then television (gaining popularity after World War II). Inventing colour TV (increasingly available since the 1960s) was a milestone in the latter case. We are clearly observing revolutionary changes in this sector and further "mediamorphoses" in the digital age. R. F. Fidler proposed this term,[6] and in Poland, it was popularised by T. Goban-Klas.[7] Indeed, it seems that we are currently witnessing an exceptional mediamorphosis.

On the one hand, there is the technological "revolution"; on the other hand, systemic, legal, and market trends cause massive and dynamic changes in this area. Moreover, phenomena such as media tabloidisation, the so-called infotainment, and citizen jour-

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[2] T. Wallas, J. Skrzypczak (eds.), *Rola mediów w kreowaniu aktywności fizycznej i zainteresowań prosportowych w środowisku akademickim – Raport wstępny*, Poznań 2018, p. 5.

[3] Z. Bajka, *Historia mediów*, Kraków 2008, p. 91.

[4] L. Piwońska-Pykało, *Prasa polska do 1795 r.*, in: D. Grzelewska, R. Habielski, A. Kozieł, J. Osica, L. Piwońska-Pykało, F. Skierawski, *Prasa, radio i telewizja w Polsce. Zarys dziejów*, Warszawa 1999, p. 9.

[5] T. Kononiuk, *Professionalization in journalism. Between modernism a postmodernity*, Warsaw 2013, p. 105.

[6] R. F. Fidler, *Mediamorphosis: Understanding New Media*, Thousand Oaks–London 1997, *passim*.

[7] T. Goban-Klas, *Cywilizacja medialna*, Warszawa 2005, pp. 47–162; idem, *Radiomorphosis cultural and technological aspects of radio development*, in: S. Jędrzejewski (ed.), *The Medium with Promising Future. Radio in Central and Eastern European Countries*, Lublin 2007, pp. 13–20; T. Kowalski, *Mediamorfoza – rzecz o przyszłości mediów i mediach przyszłości w aspekcie konwergencji*, "Studia Medioznawcze" 2001, no. 1, pp. 22–31.

nalism on the other, may prove dangerous. Technological capabilities mean that every recipient gains access to the "ocean" of information and instruments of direct communication. Notably, this issue is related to various forms of activity on the internet, such as the mentioned citizen journalism, blogs, podcasting, videocasting, intercasting, etc. Hence, one can find in literature dramatic-sounding expressions illustrating the characterised tendencies, such as "seismic shock", "parasitic nature of new media", or even "death of journalism". These new phenomena and trends of the media market observed in the world force us to redefine the basic concepts for this area, namely, how the media should be understood and who is a journalist.

Some see the computer prototype in the difference engine[8] built by Charles Babbage or in the so-called Turing machine from 1836.[9] In fact, the first such device began operation in the USA at the University of Pennsylvania in 1946 (ENIAC).[10] Such inventions initiated the next stage as the transistor (1947) and the integrated circuit (1958).[11] Actually, a breakthrough event was the construction of a microprocessor by Intel in 1971. This whole decade is a breakthrough anyway for the development of the IT industry.[12] It should be recalled that in 1975, Microsoft was founded to produce operating systems for computers, and in 1976, the Apple I microcomputer was created by Stephan Wozniak and Steven Paul Jobs (Steve Jobs). In 1981, IBM launched the Personal Computer, which was not patented, giving rise to other manufacturers' mass creation of such devices. Two years later, Apple unveiled the first computer with a graphical interface.[13]

The origins of the internet can be traced back to 1969, when ARPANet[14] was created, a network connecting American defence research units.[15] The idea was to create

[8] L. Manovich, *Język nowych mediów*, Warszawa 2006, p. 85. Although some would like to see the genesis of computers back in antiquity. J. Zielinski, *Informatyczne przesłanki do powstania społeczeństwa informacyjnego*, in: J. Papińska-Kacperek (ed.), *Społeczeństwo informacyjne*, Warszawa 2008, pp. 49–50.

[9] Z. Bauer, *Rozwój środków komunikowania*, in: idem, E. Chudziński (ed.), *Dziennikarstwo i świat mediów*, Kraków 2008, pp. 79–81.

[10] ENIAC – Electronic Numerator, Integrator, Analyzer and Computer. It was the first electric computer. The concept was presented as early as 1942, the machine was built in 1945, and in February 1946 it was presented to the public. J. Zielinski, *Informatyczne przesłanki*…, op. cit., p. 53. The impact of the computer on culture is analysed very accurately by J. D. Bolter, *Komputer maszyna i narzędzie*, in: M. Hopfinger, *Nowe media w komunikacji społecznej XX wieku*, Warszawa 2002, pp. 357–364. However, it is claimed that the first electrical computer was the British Colossus. However, this fact was revealed years later due to military secrecy. The first electromechanical computer is the Harvard Mark I, built in 1944 by International Bussines Machine (IBM). R. Grabowski, *Budowa komputera osobistego*, in: idem (ed.), *Wpływ Internetu na ewolucję państwa i prawa*, Rzeszów 2008, p. 19.

[11] J. Zielinski, *Informatyczne przesłanki*…, op. cit., pp. 54–55.

[12] M. Castells, *Społeczeństwo sieci*, Warszawa 2008, p. 65.

[13] T. Goban-Klas, *Cywilizacja*…, op. cit., p. 278; M. Castells, op. cit., pp. 52–58.

[14] It was a network created by an agency founded in 1958. ARPA (Advanced Research Project Agency) main goal was to conduct work on technologies allowing to gain an advantage in the technological race between the USA and the USSR. M. Filiciak, *Internet – społeczne metamedium*, in: W. Godzic (ed.), *Media audiowizualne. Podręcznik akademicki*, Warszawa 2010, p. 108.

[15] See "ARPANet", in: S. Jones (ed.), *Encyclopedia of NEW MEDIA. An Essential Reference to Communication and Technology*, New York 2003, pp. 11–12; M. Jasionowicz, *Internet, medium,*

a network that would allow communication even in case of the destruction of specific communication centres as a result of war.[16]

A significant event was the creation by V. Cerf and R. Kahn in 1974 of the bases of the TCP protocol, which later, in 1983, together with the combination TCP/IP, became a network standard.[17] In 1990, at the European Organisation for Nuclear Research CERN, T. Berner-Lee created a distributed hypertext database, giving rise to web protocols (World Wide Web).[18] In Poland, the symbolic date of the creation of the internet is 7 August, 1991, i.e., the date when the first data transmission using the TCP/IP protocol took place between the Faculty of Physics of the University of Warsaw and the University Computer Centre in Copenhagen, or 15 December, 1991, i.e., the moment of including Poland into the global network under EARN, in connection with the lifting by the USA the embargo on Poland in access to computer and telecommunication technologies.[19] Analysing the development of telecommunications, many authors see the genesis of the digitisation of this sector in the relatively distant past. Such claims are not without reason, given that telegraph transmissions in the digital form were possible already in the nineteenth century.[20]

It should also be noted that already in 1955, trials began on the use of optical fibres in telecommunications, and two years later, Earth's artificial satellites – Sputnik I and Sputnik II – transmitted radio signals. In 1961, the so-called modem was constructed (i.e., a "component of a data transmission link that converts electrical

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środowisko, społeczność, in: Z. Bauer, E. Chudziński (eds.), *Dziennikarstwo i świat mediów*, Kraków 2008, pp. 146–148. However, it should be added that only four computers were connected at that time. By 1980, the number of connected devices had not exceeded 400. W. Bartkiewicz, *Internet przyczyną transformacji społecznej*, in: J. Papińska-Kacperek (ed.), *Społeczeństwo informacyjne*, Warszawa 2008, pp. 140–141; M. Filiciak, op. cit., p. 108; W. Boddy, *Wouldn't you rather be at home? Electronic Media and the Anti-Urban Impulse*, in: J. Lyons, J. Plunkett (eds.), *Multimedia Histories. From the Magic Lantern to the Internet*, Exeter 2007, pp. 31–42.

[16] This network was based on the assumption of the so-called packet switching, i.e., data was divided into packets and sent to the indicated information nodes by various routes.

[17] W. Bartkiewicz, *Internet przyczyną*…, op. cit., p. 141.

[18] Z. Bauer, *Bauer, Kalendarium*, in: T. Goban-Klas, *Zarys historii i rozwoju mediów. Od malowideł naskalnych do multimediów*, Kraków 2001, pp. 152–156; B. Jung, *Rozwój rynku multimediów*, in: idem (ed.), *Media, komunikacja, biznes elektroniczny*, Warszawa 2001, pp. 178–182; R. Grabowski, *Urządzenia obliczeniowe*, pp. 46–47; M. Juza, *Internet jako nowe medium masowe: szanse, zagrożenia, perspektywy*, "Studia Medioznawcze" 2007, no. 2, pp. 71–76; D. Batorski, *Internet w Polsce. Niektóre społeczne aspekty korzystania z nowych mediów*, "Studia Medioznawcze" 2005, no. 3, pp. 42–43. The author draws attention to the emergence of HTML and websites. J. Hofmokl, *Definiowanie internetu w kategoriach dóbr wspólnych*, in: D. Batorski, M. Marody, A. Nowak (eds.), *Społeczna przestrzeń internetu*, Warszawa 2006, pp. 39–54.

[19] D. Baran, *Internet w Polsce*, https://core.ac.uk/download/pdf/214926432.pdf (accessed: 01.02.2021).

[20] A. Zielinski, *Cyfryzacja przyszłością telewizji naziemnej*, "Realia" 2010, no. 1, p. 154. Let us recall that in 1837, Samuel F. Morse constructed an electromagnetic telegraph, which made it possible to transmit information over a distance using the first public telegraph line in 1844, and to transmit information over a distance in 1876. Alexader G. Bell built the phone. Z. Bauer, *Kalendarium*…, op. cit., pp. 152–156.