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TECHNOLOGY AND AN AGING POPULATION IN NETWORK SOCIETY: TOWARDS VIRTUALLY-BASED COMMUNITIES?

1. INTRODUCTION

Technological advance occurring in the 21st century is regarded to be one of the most dramatic ones, powerfully affecting transformations in the most significant areas of human activity. Creation of new technological solutions was not without effect on the change of the civilization code of society, which is more and more often called network society. Physical and biological technologies result in a range of consequences which are difficult to assess from the angle of future social and economic development. Their social application is associated with the emergence of new self-organizing social orders, in which the dominant role is beginning to be played by specially created institutions and top-down steered mechanisms responsible for sustaining a technologically mediated symbolic reality. The development of physical and biological technologies implies the creation of new social technologies often considered as unplanned and unpredictable consequences of the *technologization process* of natural social space[1]. Social technologies affect to an equally

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great extent modern day civilization transformations[2]. Technologies which are of particular interest in the process of social valuation are those which are defined as network ones. Their purpose is to create platforms for the development of structures which bear characteristics of networks and to maintain within them a specific communication structure. The usefulness of implementing new technological solutions is determined in the process of evaluation of real possibilities of using them for reproduction and institutionalization of various types of networks[3]. These days, the *networking* process is defined in universal categories, while *Internetness* is becoming a characteristic feature of contemporary civilization. Social and technological worlds together create a specific emergent network order.

These transformations have led to the birth of a new social formation – the network society. Its participants are simultaneously users and producers of technology, who become addicted to new technological solutions adjusting to technological rules prevalent in the market. Homo sapiens is changing, becoming more homo technicus[4]. The all-embracing networking process brings about transformations in the sphere of values, social practices, social relations, economy, etc. The etiquette of the network society is applied in definitions referring to these essential civilization transformations initiated by rapid technological advance and the resulting hybrid social space. A network structure used to be regarded as one of the most elementary social forms much earlier. Technological advance strengthened a natural *networking process*, enabling intensification of connections, relations, social and economic relationships within ever more complicated social and technological systems. The network society has a relational and not substantial character, while network social structures are examples of the most chaotic, flexible and dynamic ones.

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[1] Compare with: L.W. Zacher, *Cywilizacja techniczna – społeczeństwo informacyjne w perspektywie wiedzy*, [in:] A. Betlej, D. Błaszczak, M. Górka (eds.), *Społeczeństwo – technologia – gospodarka w świecie sieciowych powiązań. Ku przyszłości*, Lublin: Wydawnictwo KUL 2016, p. 87-104; J.F. Coates, *Wartościowanie techniki – próba agendy na XXI wiek*, [in:] L.W. Zacher (ed.), *Nauka. Technika. Społeczeństwo. Podejścia i koncepcje metodologiczne, wyzwania innowacyjne i ewaluacyjne*, Warszawa: Wydawnictwo POLTEXT 2012, p. 409-416.

[2] Compare with: J. Mariański, *Nowe technologie medialne w ocenie społecznego nauczania kościoła* [in:] S. Partycki (ed.), *E-gospodarka E-społeczeństwo w Europie Środkowej i Wschodniej,* vol. 1, Lublin: Wydawnictwo KUL 2009.

[3] Compare with: A. Betlej, *Metafora sieci a nauki społeczne – w kierunku zmiany paradygmatu struktur*, „Transformacje. Pismo interdyscyplinarne", 2007-2008 (Fundacja Edukacyjna „Transformacje", Centrum Badań Ewaluacyjnych i Prognostycznych Akademii Leona Koźmińskiego w Warszawie), p. 98-116; M. Castells, *Communication power*, Oxford/New York: Oxford University Press 2009.

[4] Compare with: L.W. Zacher, *Cywilizacja techniczna – społeczeństwo informacyjne w perspektywie wiedzy*, p. 87-104.

Another characteristic of the network society is technological mediation and dependence of participants of the network order, to a so far unprecedented degree, on the functioning of new *network-forming technologies* associated with producing and processing information and knowledge. The network technology to a large extent differs from old technologies since it brings about a change in the social manner of experiencing space and time (time and space compression), geography (deterritorialization) and decentralization as well as control and interactivity[5]. The network infrastructure is a platform for bond-forming communication activities. The network society is based on informational transfer, while the ethical fundament of informationalism is a culture of creative destruction. The network society is open, innovative; traditionally conceived causality and continuity are disappearing in it and random infosphere is appearing.

The development of new technologies and a deepening networking process carry numerous threats to the stability of the social order. In the near future, the ability to use new technologies, to have particular technical competences and to access codes to specific virtually mediated social networks will become one of the key social competences. In a networked world, there are two alternative models of elucidating reality. Asymmetrical structures of knowledge and information transfer gain market significance in it. Closed network communities with access codes to rare nonmaterial network resources are becoming enclaves of technologically mediated development. Many researchers of a network world discern threats connected with such a rapid technological advance. The primacy of technological competences over emotions, nullifying the significance of man's spiritual development – may lead to serious practical consequences. The ideology of technoprogressivism promoted these days may lead to the creation of new categories of excluded people in the network society. Social exclusion is defined as an example of a natural phenomenon. The mechanism of social exclusion is closely linked to a structural analysis in the network order. The structural configuration impacts the way of exchanging knowledge, access to material and nonmaterial resources in a society, possibilities of expansion of given communities or a probability of stagnation and downfall of whole societies.[6] The dimensions of social exclusion which are most commonly stressed in modern conceptions involve economic, political and social ones.[7] Network technologies may be a source of digital social inequalities as well as a tool used to fight digital exclusion.

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[5] Compare with: M. Castells, *Społeczeństwo sieci*, Warszawa: PWN 2010.

[6] Ibidem, p. 23.

[7] J. Grotowska-Leder, *Ekskluzja społeczna – aspekty teoretyczne i metodologiczne,* [in:] J. Grotowska-Leder, K. Faliszek (eds.), *Ekskluzja i inkluzja społeczna. Diagnoza – uwarunkowania – kierunki działań*, Toruń: Wydawnictwo Akapit 2005, p. 29.

These issues appear to be particularly relevant and interesting in the context of analyzing contemporary key social problems connected with the process of aging of societies. This rapid and dynamic aging process characterizing contemporary developed social systems presents many new global challenges to social and economic policies of individual countries of the world. An essential factor of future social development, promoted as part of the silver economy conception, is popularizing activity of older people by participating in various activation programmes. Numerous researchers point out the self-exclusion the elderly from the mainstream of social and economic activity and the creation of new generation conflicts associated with the inability of this category of people to adjust to the dominant network technologies[8]. Elders not understanding new network logics cannot cope with the new order; they do not have appropriate technical competences and are condemned to social and economic marginalization. From this vantage point, technological advance is perceived as a threat to sustainable social and economic development taking into account the needs of elderly people.

The silver economy conception is founded on the assumption that it is possible to encourage an increased activity and to change the needs of this population so that they may become a source of development and economic growth. Throughout the centuries, the process of integration of elderly people has changed and it looked different in a traditional society in which a community was formed naturally in places of residence which were connected with places of professional and life activities. In an industrial society, gradual space of mutual social relations increased due to the process of migration of groups of people to work distant from their place of residence as well as due to the development of communication techniques. The process of social integration has taken a different course in information society in which a network of contacts go beyond the limitations of time and space. In a network society, this process has reached its peak since new information and communication techniques have started to play the function of dominant bond-forming tools in virtually mediated social space[9]. Thanks to the usage of new technologies, it has become possible to meet new people in virtual reality without the limitations of time and space and to maintain a network of contacts and ties established in the real world. Multiplication of social contacts has also emerged as a specific cultural imperative.

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[8] Compare with: J. Bednarek, *Społeczne kompetencje medialno-informacyjne w kontekście bezpieczeństwa w cyberprzestrzeni i świata wirtualnego*, [in:] J. Bednarek (ed.), *Człowiek w obliczu szans cyberprzestrzeni i świata wirtualnego,* Warszawa: Difin 2014; W. Borczyk, W. Wnuk, *Edukacja w starości i do starości*, [in:] *Strategie działania w starzejącym się społeczeństwie. Tezy i rekomendacje*, Warszawa 2013.

[9] A. Betlej, *Non-knowledge, Risk and Technology in Networked World-Towards the Future, "*Transformations. An Interdisciplinary Journal", 3-4 (82-83), 2014, p. 2-17.

An interesting research objective is to theoretically place the elderly in the networking process and to assess the bond forming potential of new technologies in the process of social integration in this category of people. One of the goals undertaken by the authors is to explore the process of integration of elderly people from the perspective of community creation in a real and virtual sphere. They also attempt to provide an answer to the question whether thanks to social networking sites it is possible to form a wide-ranging network of contacts which are capable of functioning permanently in actual reality. A practical implication of all social divisions are, first of all, different possibilities of participating in social and economic life, a limited share in consumption, unemployment, reduction of social contacts, disappearance of social bonds tying an individual to their social environment, a limited participation in public life. Can new technologies be instrumental in solving social problems of the aging population of the network society?

2. "MISS OVER 50" PROJECT

Against the background of these theoretical considerations, it was a particularly interesting task to carry out a study of the network community of pre-retirement age women which was created on an Internet website as part of the "Miss over 50" project implemented in 2014. The idea of the project was born in the "Miss over 50" Foundation, the object of which is social activation of women over 50. In Poland, there was a view deeply ingrained in the social consciousness that it was necessary for older women to withdraw from professional and social life. A negative image of a woman over 50 as a person not very active, old-fashioned, unable to fully participate in the work market resulted in their specific social marginalization. The aim of the project was to change the image of the women as willing to take up social activities, developing their passions, fulfilling their dreams, achieving professional success and enjoying social prestige. It was quite challenging to create the role model of an over 50 women as brave, open to new challenges and possibilities related to taking an active part in professional and social life. A successful woman over 50 is a person bringing help to other professionally excluded women, with an "empty nest" syndrome, life problems, who is conscious of her value.

It become possible to carry out the mission of the project thanks to the usage of new information and communication technologies and the creation of a virtual Internet platform integrating women interested in developing their passions and interests, getting to know new people and participating in the social life of a local community. By means of an Internet platform women formed social bonds which were then transferred into reality. New forms of virtually mediated communication became well received social practice in the older age category, contrary to the frequently proposed theses of network technologies being unadjusted to their needs.

The aim of the study conducted was to answer the question of how to form a virtually mediated network community, functioning in a networked social space (virtual or real). Another objective of the research was to explore the character of the communication process among the participants of the project at its various levels and by means of diverse technological tools. The empirical study was conducted using a participation observation technique, a survey questionnaire and a free-form interview.[10] Three fourths of the women participating in the competition were aged 50-59 and one fourth 60-69. 44.3% of them were unmarried, 34% divorced, 10% were spinsters whereas 10% were widows. One third of the women had one child, almost as many had two and 10% had three children, 5% had four. Nearly half of the candidates did not have any grandchildren. The structure of the number of the grandchildren was similar to that of the children. More than half of the studied women were university graduates and lived in a voivodship city, almost 40% had secondary and post-secondary education and lived in a county town and only 5% had vocational education and lived in the country. Two out of them had PhD diplomas and one finished her education at primary school level. One fifth of the respondents carried out their own business activities and one tenth worked in a family owned business. 16% were employed in state institutions and as many were retired. 10% of the respondents were employed in the grey market. 5% did not work by choice and 3% had a disability pension.

Two hundred candidates registered on the Internet profile created for the needs of the project; they came from the following voivodships: Mazowsze 23, Wielkopolska 18, Silesia 17, Łodź 14, Małopolska 14, Lower Silesia 11, Kujawy-Pomerania 8,

[10] The co-author of the paper (Krystyna Leśniak-Moczuk) logged onto the project website and actively participated in all the forms of women's integration and she got to its final. She analyzed the personal structure of the website according to the women's social features and motivation in joining the project. She had access to posts, comments on "Miss over 50" FanPage. She accepted as friends 64 contestants and she invited 41. She did not manage to identify the remaining 54 women on the website; 23 did not set up a profile. During project and private meetings she was able to carry out interviews and observation so as to learn about the candidates' motives and expectations. During the semi-finals she conducted 61 surveys (two thirds of the population).

Pomerania 7, Lublin 5, Lubusz 4, Western Pomerania 4, Subcarpathia 3, Warmia-Masuria 3, Opole 2, Holy Cross (świętokrzyskie) 1; 23 were from abroad.

The candidates represented a full cross-section of the social and professional structure. One fifth worked as a shop assistant, hairdresser, beautician, photographer, technologist, farmer; 15 % were journalists, political scientists, psychologists, engineers, surveyors, chemists, physicists, interior designers. The most often represented jobs were: teacher 15%, economist, accountant 10% and 10% were those who had the status of company owners in the beauty, hairdressing, photography, gardening and trading sectors. The other professions were office workers 8%, artists (musician, dancer, singer, painter) 6%, nurses 5%, a doctor, professor 2%.

A preliminary analysis of the social situation of the candidates who got interested in the project directed the researchers' attention to their numerous professional achievements as well as a wide range of interests. The women were very active professionally. Many of them were socially active, participating in the life of their local communities. The project participants were interested in culture, art, sport[11]. They also undertook activities in the public sphere.

At the next stage of the project the women attempted to get to the semi-final. The decisive factor were Internet users' votes cast for particular candidates using the Internet. An important element of the project were meetings organized in 6 Poland's cities attended by 60 candidates. The women could also participate in integration meetings at the premises of the Foundation. The jury elected 26 finalists out of the 95 women who got to the semi-final. The organizers provided the women with the possibility of participating in professional photography and make-up sessions which were attractive for them. At a camp for finalists they were offered training in the areas of self-assessment and self-presentation, choreography as well as giving interviews. During the Miss over 50 Gala, the finalists presented not only fashion collections but, first and foremost, their life achievements. During the festive final gala four participants of the contest were granted the titles of laureates, whereas the remaining ladies were awarded miss titles referring to the features of personality they discovered.

[11] Author's note: painting, dancing, singing, music, poetry, writing, acting, photography, handcraft, fashion, jogging, Nordic-walking, yoga, roller-skating, gym, riding a bike and motorcycle, tennis, skiing, skating, athletics, swimming, fishing, climbing. The women were also interested in cooking, gardening, rearing animals, tourism, reading books and magazines, surfing the Internet, in following sports events, participating in concerts, going to the cinema, theatre and philharmonic concerts.

3. REAL VERSUS VIRTUAL

The statistical analysis of the respondents' answers yielded the following results. The most popular source of information about the contest was the Internet (40%), direct personal contacts for one third of the population, television for 15%, the press for 8%. The study results show that near-retirement age women use new information and communication technologies, while the Internet often becomes for them the first source of information about events taking place at home and abroad. Even though women over 50 do not present advanced technological competences, they are willing to apply technological novelties, especially those facilitating communication and maintaining contacts with other people.

The motives for taking part in the contest were diverse, however most of the women deciding to participate hoped to extend their circle of contacts as well as to meet new people in a similar life situation. One third of the respondents knew personally 1-3 persons from the contest and two thirds did not know anybody. As many as 40% of the candidates established direct personal contacts with more than 20 women and one third with 10-20 ones. New information and communication technologies may be instrumental in overcoming social barriers, providing a platform for creating new forms of inter-human relations. Lifestyle transformations, a narrowing circle of friends of women engaged, at a certain stage in their lives, in professional and family work, an increased amount of time are only some of the factors bringing about a change in social expectations of near-retirement age women. The Internet plays a bond forming role and is not without effect on transformation of social relations in the *technologized social environment.* New technologies may be used so as to counteract negative implications of the aging process of modern societies. The issue of the degree of adjusting tools to the social needs of certain age categories of people continues to be a relevant problem of great social and economic significance. Survey studies carried out half a year after the publication of the contest showed that more than 80% of the contest participants still maintained the contacts established during its course. Every tenth candidate kept contacts with more than 20 friends, above 20% with 10-20 ones and 1-3 and almost one third with 4-5. One fourth of the women participating in the project continued to meet personally. Considering a great territorial dispersion of the women's places of residence in Poland and in Europe, the result supports the thesis of a bond-forming function of *network technologies*.

The results of the studies conducted point out the purposefulness of using information and communication techniques by near-retirement age women. Over 40% of the respondents maintained contacts with newly acquainted women by means of

social networking sites. The women were the most interested in Facebook which was indicated as a place of exchanging information. Only 10% of the respondents did not have a Facebook profile. Over 40% of the women who had an account on the aforementioned social networking site invited as friends more than 20 candidates and one third 4-20 ones. A similar distribution concerned the invitations received by the women from other project participants. As a result of the exchange and acceptance of invitations by the participants of the project, 60% of the respondents had more than 20 new friends from among the candidates, 10% – 4-9, and 7.3% had 10-20 and 1-3. The frequency of Facebook contacts was very high. One fourth of the respondents contacted others using the website once a day or more often, 16.4% contacted their friends more rarely than once a day and one third every few days. Email and mobile phone were also important instruments used to maintain contacts.

A danger associated with an ever increasing degree of using information and communication instruments in social contacts was frequently indicated as carrying a threat of social alienation of people involved in virtual activity. The studies carried out showed that only one fourth of the respondents regarded virtual communication as the only means of maintaining established contacts. Almost all the respondents predicted that the contacts created during the project would turn into permanent bonds. Interestingly, as many as 80% of the respondents were convinced that participation in the project, meeting interesting new people, maintaining contacts using the Internet, personal meetings would be instrumental in forming a group fulfilling joint purposes consistent with those suggested by the "Miss over 50" Foundation.

4. CONCLUSIONS

New technologies defined as network ones have become elementary tools used in everyday lives of participants of the networked order. Digital media forming a hybrid world carry numerous threats related to a potential danger of social exclusion of the aging population in the network society. The reasons for the emergence of a new category of the digitally excluded are sought in the character of the network medium. Thus, the passion for applying new technologies implies a whole host of negative consequences. The most dangerous of them are: a limited access to a digital world, a low degree of interactivity, social disintegration, disappearance of social bonds among *the networked* and *the excluded* from a network world. Technological competences and access to new technologies will, to an increasing extent, affect transformations of a traditionally defined stratification system. One of the most engrossing issues related to the problems of the aging

population of modern day developed societies is a potential chance of exploiting new technologies as tools for social integration of people excluded due to their age. Modern means of social communication have dominated personal contacts of the younger generations. Digital education of post-productive age people seems to be a prerequisite for applying the network technology to expand the possibility of generation contacts. New technologies create chances and possibilities for elderly people's activity in various areas.

The studies conducted showed that an intense need for participation in the life of a broadly conceived community continues to be discernable among near-retirement age women and that they accept new technological tools even if they have poor technical competences. Network technologies legitimize a privileged character of specific personal contacts – virtually mediated relations, social networks, virtual communities the natural environment for whose existence is a technologically mediated reality. A natural stage of evolution of social relations in contemporary society is their virtual mediation. The idea of returning to communities in the network society continues to gain significance and researchers emphasize its great role in counteracting the negative consequences of rapid technological advance. An important task is to popularize examples of positive effects of using new technologies by a near-retirement age generation.

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TECHNOLOGIA A STARZEJĄCA SIĘ POPULACJA W SPOŁECZEŃSTWIE SIECI: W KIERUNKU WIRTUALNIE ZAPOŚREDNICZONYCH SPOŁECZNOŚCI?

Streszczenie

Współczesne transformacje społeczne są bardzo silnie powiązane z gwałtownym rozwojem technologicznym, który nie pozostaje bez wpływu na dominację reguł technologicznych w życiu społecznym. Transformacje więzi społecznych, powstawanie nowych form kontaktów, wzorów społecznych zapośredniczonych wirtualnie są zjawiskami powszechnymi w społeczeństwie sieci. Kompetencje techniczne zaczynają odgrywać coraz większą rolę w utechnicznionym środowisku społecznym człowieka. Teoretyczne poszukiwania *cyfrowych wykluczonych* z głównego nurtu rynkowego zakorzenionego w sieciowej kulturze komunikacji sprowadzają się bardzo często do stawiania pytań o znaczenie wieku, jako ważnej determinanty określającej pozycję i wartość rynkową współczesnego człowieka. Dominacja reguł technologicznych i obecność *społecznie wytworzonej natury* (Anthony Giddens) nie pozostaje bez wpływu na rosnące oczekiwania względem uczestników społeczeństwa sieci co do ich zdolności dostosowywania się do cyfrowych standardów społecznych i stopnia partycypacji w nowej przestrzeni komunikacji.

Słowa kluczowe: technologia; starzejące się społeczeństwo; społeczeństwo sieci.

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Summary

Modern social transformations are very strongly related to rapid technological advance which has an impact on the dominance of technological rules in social life. Transformations of social bonds, creation of new forms of contacts, or Internet mediated social patterns are common phenomena in the network society. Technological competences are playing an increasingly prominent role in man's technologized social environment. Theoretical search for the digitally excluded from the market mainstream rooted in the Internet communication culture often focuses on raising questions about age as an important determinant which defines the position and market value of modern man. The dominance of technological rules and the presence of a socially produced nature (Anthony Giddens) impact the growing expectations towards the participants of the network society concerning their ability to adjust to the digital social standards and the degree of participation in the new communication space.

Key words: technology; ageing population; network society.