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A CULTURE OF SECURITY VERSUS DIGITAL EXCLUSION AS A FORM OF SOCIAL EXCLUSION

This article contains a brief description of the creation of an artificial environment, which is the outcome of the evolution of humankind's natural environment. Its dynamic development is associated with anthropopressure. A sizeable share of scientists agree that we live in a new geological epoch called the Anthropocene (a term proposed in 2000 by Paul Crutzen, an atmospheric chemist), in which humans exert an increasingly noticeable impact on the entire planet and "reach out" into space. The modern human being no longer exists in their natural human environment, but dwells in the "technicized" one. In this article, the authors present the issues of social exclusion through the prism of newly created artificial human environments. They will look at the technicized human environment through the prism of security culture issues, of which exclusion, including digital exclusion, is one. The factor determining the functioning of ecosystems, and thus maintaining the phenomenon of life on Earth and then in Space, is the flow of energy and matter. Everything occurs in time; this very phenomenon is responsible for the aging of biocenosis, which in turn is subjected to exclusion processes in the habitat.

Keywords: ecosystem, digital exclusion, security culture

1. INSTEAD OF THE INTRODUCTION

Human civilization is developing in an uncontrollable manner. Achievements being of importance to science are mixed with charlatany while interference with human nature takes on indeterminate dimensions and forms. The digitisation of life is experiencing a real renaissance (Sommer 2006).

Technological development and the spread of the Internet have resulted in the transfer of many forms of social life into the digital space. As a result, for various reasons, part of the society remains marginalised in the course of these changes, leading to the emergence of the phenomenon called "digital exclusion".

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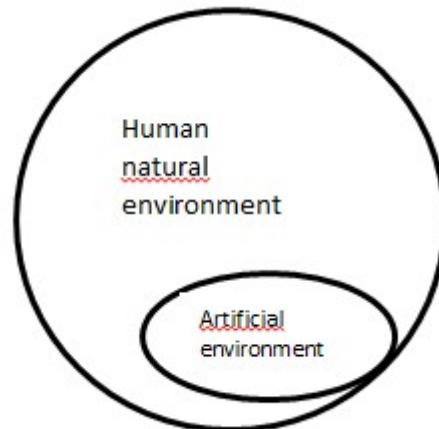
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At every stage of the development of human civilization there used to be, there are and probably there will always be excluded groups inhabiting their own ecosystems. H. Sommer, G. Zakrzewski write:

The introduction of the concept of “ecosystem” by Tansey, as a basic, ecological functional and spatial unit in 1935, was a turning point in the development of ecology. An ecosystem is an area with relatively homogeneous abiotic conditions (biotope), occupied by a corresponding set of species associated with trophic and paratrophic dependencies, through which a stream of energy and matter flows. A technically developed area can also be considered an ecosystem if it meets the above-mentioned conditions. According to this definition an ecosystem is the result of two components remaining in close relationship:

- **inanimate (biotope, also called habitat)**, which consists of soil, water, and air, with all their physicochemical properties, and climate;
- **animate (biocenosis)**, consisting of the combination of species native to a given biotope in specific geographical conditions (Sommer, Zakrzewski, 2017a).

It can be stated with utmost resolve that the contemporary human being hardly exists in the natural environment and mostly functions within an artificial human-made environment. Figure 1 presents the state existing when the human being appeared on Earth and began to transform it. The situation has been virtually reversed for almost half a century. The natural environment has been “replaced” with an artificial one, in which ever greater changes begin to take place, exerting an impact on the habitat which scientists struggle to predict. Today, the issues of the security culture still do not enjoy sufficient priority. Zoology is still unable to win the recognition of a broader audience, despite all the disciplines ranging from philosophy, through exact sciences, to finally technical studies are combined in it, as if in a lens (see more: Sommer, Zakrzewski, 2017b).



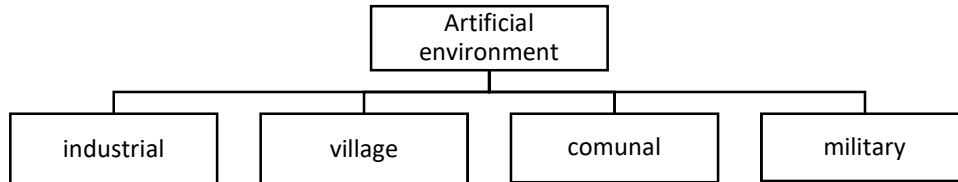
Picture 1. Split of human natural environment

Source: authors' own research.

Changes to the natural habitat of humans, turning it into a heavily technicized one caused dynamic civilisational development and had side effects in the form of exclusion suffered both by individuals and social groups. H. Sommer, H. Sommer, G. Zakrzewski write:

From the classical definition of the habitat, one can easily formulate the definition of the technicized habitat, i.e., one which is a creation of human thought and achievements of engineering and is inhabited by people (Sommer, Sommer, Zakrzewski 2018).

The division into four types of “artificial environment”, which is shown in Figure 2, seemed quite obvious.



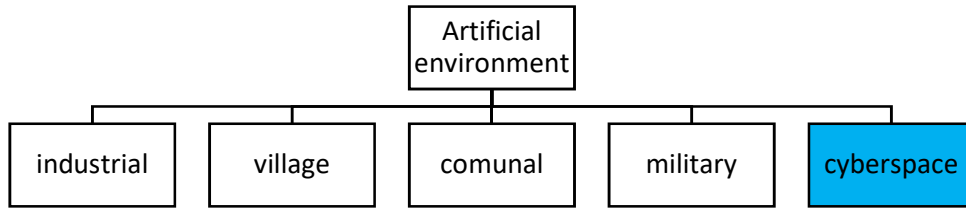
Picture 2. Four types of artificial environment

Source: (Sommer, Zakrzewski, 2017c).

H. Sommer, G. Zakrzewski write:

When exploiting the planet Earth, the modern human being no longer dwells in the natural environment of humankind (with only enclaves remaining of the former one), but in the “humanized” environment (anthropopressure environment), in which he carries out the processes of protection and shaping using the most advanced technologies and scientific research from various fields, ranging from natural sciences, economics, to philosophical. According to some scientists, we have entered a new geological epoch, called the Anthropocene (a term proposed by Paul Crutzen, atmospheric chemist in 2000), when people exert an increasingly noticeable impact on the entire planet (Sommer, Zakrzewski 2017a).

Every environment alters the human being-environment system. Following armed conflicts, a military environment further corrupts humanity. The technicization of manufacturing processes, initiated by the application of the steam engine, changed social processes once and for all. The age of steam did not sustain the development of human civilisation for long. It was superseded by electricity in a natural and swift manner, with electronics gripping the reigns soon after. The existence of the human being within the cyberspace environment is a fact, even without wide acceptance of said fact. In Figure 3, the authors propose to incorporate cyberspace into the artificial environment.



Picture 3. Proposed split of artificial environment

Source: authors' own research.

Cyberspace is a product of the last decades and sprung up right before our eyes. That is why it is so difficult to postulate its full definition. For the purposes of this article, the authors quote M. Grzelak K. Liedel:

Even reconciling the definition of the concept of cyberspace alone poses a problem. In one of its publications the NATO Cooperative Cyber Defence Centre of Excellence, (CCDCoE) in Tallin, the capital of Estonia, proposes a definition stating that cyberspace is a “time-dependant collection of interconnected information systems, as well as people/users interacting with those systems”. CCDCoE stresses that the multitude of functional definitions, which, however, often describe only hardware components of cyberspace with the possible inclusion of software, often ignore the human being as a user interacting with cyberspace, thus becoming a part thereof (Grzelak, Liedel 2012).

2. HUMANIZATION OF TECHNOLOGY AND TECHNICIZATION OF HUMANITIES

The staggering pace of technology development not only influenced the nature of our civilization, but also radically changed our reality. Modern civilization can be described as technicized, automated and digitalized. New technologies not only supplement the human being but, in many cases, replace them altogether. However, a technicized world may lead to the narrowing of intellectual perspectives, impoverishment of language, uniformization of tastes and standardization of imagination. A humanistic approach to modern technical civilization should strive for a kind of development which will not be used against humanity and its safe existence (Sommer 2017).

According to Klaus Schwab, the world changing under the influence of technology, in which devices communicate with people is a sign of the new revolution - the so-called fourth industrial revolution. The potential to strengthen the position of both individuals and groups lies within the fourth industrial revolution, as it creates new possibilities for the economic growth, as well as social and individual development. However, it may also lead to marginalisation of some groups, exacerbation of inequality, and creation of new threats to security (Schwab 2016a).

As noted by Melvin Kranzber, technology is neither bad nor good, nor is it neutral, and technological development has significant consequences for the environment, society and people, which go far beyond the goal of introducing technological devices and practices associated with them (Kranzberg 1986).

During the process of upbringing and education, people gain the ability to navigate the technicized environment. This process is natural and proceeds along a timeline. Exclusion is a phenomenon that occurs when something takes the human population by surprise. The introduction of the production (assembly) lines (See more: FORD car assembly lines, <https://www.ford.pl/swiat-forda/o-firmie/historia>) by **Henry Ford** at the beginning of the 20th century is considered to have been the beginning of one of the greatest industrial revolutions, which resulted in widespread unemployment amongst highly skilled craftsmen.

Nowadays, cyberculture is an everyday reality and it is irreversible. New ways of implementation and digital opportunities, which appear increasingly often, are supposed to make our lives easier, but is it really so in every case? With age, adapting to changes comes with an ever-greater difficulty. Economic conditions, as well as health issues, to some extent, are also an important factor causing social exclusion.

The ways in which elderly people evaluate cyber exclusion will be the subject of this research.

3. METHODOLOGY AND RESULTS OF THE RESEARCH

Research methods constitute a general system of rules which pertain to the organization of specific research activities, i.e., various cognitive and practical operations, the order of their application and measures aimed at achieving the adopted research objective. In this study, the research will focus on the following problem:

Do elderly people feel digitally excluded?

In order to conduct research effectively, apart from formulating the research problem, a hypothesis must be put forth. The following hypothesis can be formulated as a response to the main problem:

It can be assumed that the surveyed elderly people feel digitally excluded to a large extent.



Picture 4. Place of survey

Source: authors' own research.

The research was carried out in July 2022 at Inowrocław health resort. 70 women and 52 men staying and receiving treatment at the following health resorts: Pod Tężniami, Kujawiak, Energetyk, Modrzew and Oaza participated in the research. The survey was carried out with the use of a questionnaire containing 12 questions. The questionnaires were handed out to people who were walking in the vicinity of graduation towers in the afternoon and expressed their willingness to participate. The respondents came from various parts of our country. For the purpose of this article Poland was divided into quarters in Figure 4. The figures given here denote the number of women in the numerator and the number of men living in individual regions of the country in the denominator.

The first chart depicts the level of the elderly citizens' digital competence estimated by the respondents themselves.

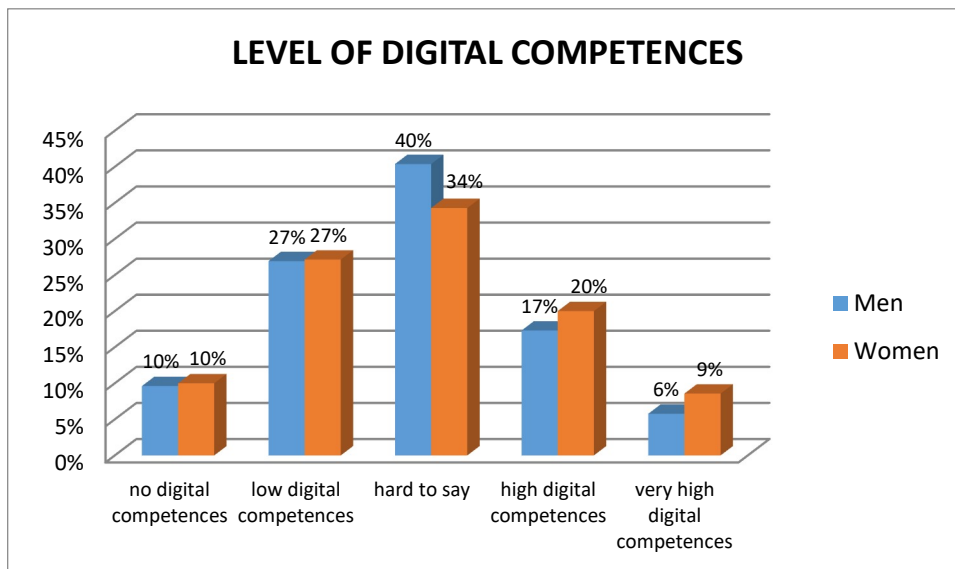


Chart 1. Level of digital competences

Source: authors' own research.

It may be puzzling that the majority of the respondents were unable to determine their digital competence; specifically, 40% of men and 34% of women. As many as 27% of both women and men define their digital competence as low and 10% believe that they have no digital competence. On the other hand, 20% of women and 17% of men believe that they possess high digital competence, and 9% of women and 6% of men believe that their digital competence is at a very high level.

In the second chart, the respondents answered whether they used a payment card.

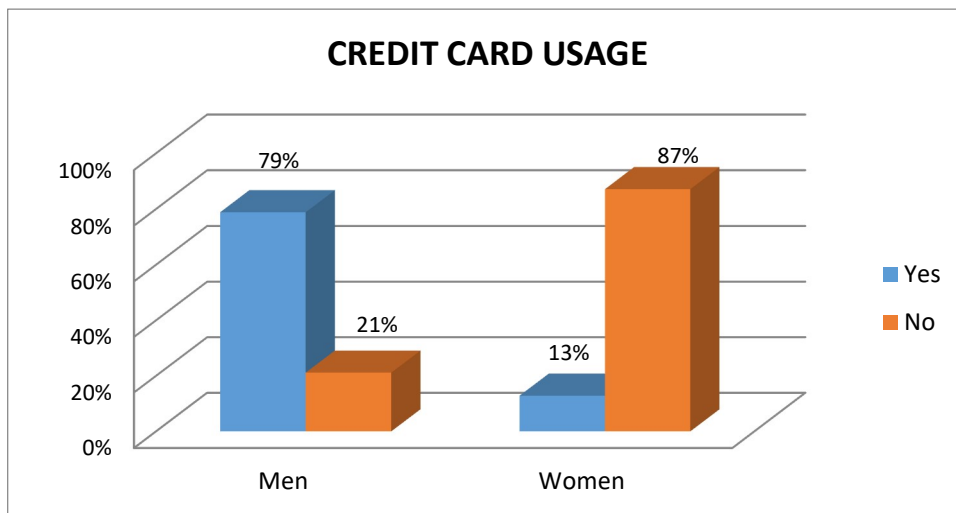


Chart 2. Credit card usage

Source: authors' own research.

Chart 2 depicts the scale of using payment cards among seniors. Here, it can be stated that the vast majority of men (79%) use payment cards. What may come as a surprise is a very low percentage of women (13%) who have plastic money.

The next chart (3) presents the percentage of the older generation that uses the Internet.

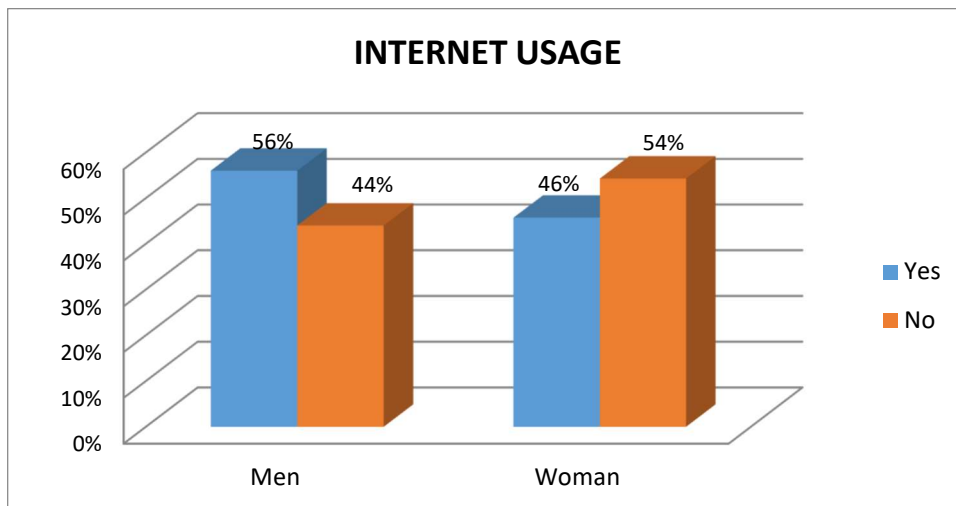


Chart 3. Internet usage

Source: authors' own research.

A large percentage of elderly people, both men (56%) and women (46%) use the internet.

Chart 4 illustrates what type of phone the elderly citizens have.

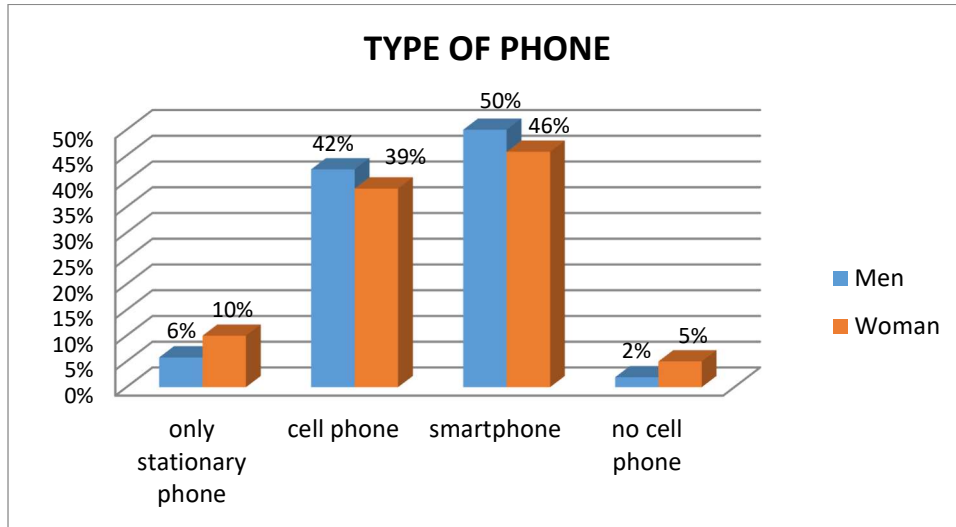


Chart 4. Type of phone

Source: authors' own research.

The vast majority of the respondents have smartphones (50% men and 46% women) or other mobile phones (42% men and 39% women). Only 6% of men and 10% of women have traditional phones, and a marginal percentage reported having phone.

The next chart (5) shows the percentage of elderly people who require assistance from other people.

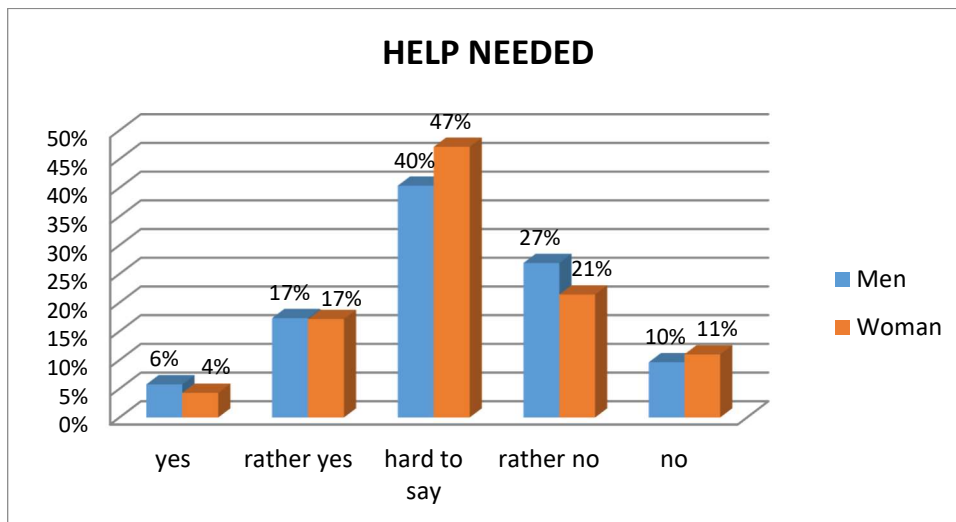


Chart 5. Help needed

Source: authors' own research.

With regard to the issue of required assistance, the largest percentage of the respondents could not take a stance on the matter. 11% of women and 10% of men declare that they do not require any assistance in this matter, while 27% of men and 21% of women state that it is unlikely for them to need help. On the other hand, 17% of both women and men answer that they rather need support from others, and 6% of men and 4% of women are convinced that such help is essential for them.

The next chart (6) presents results pointing to the sense of digital exclusion felt by elderly people.

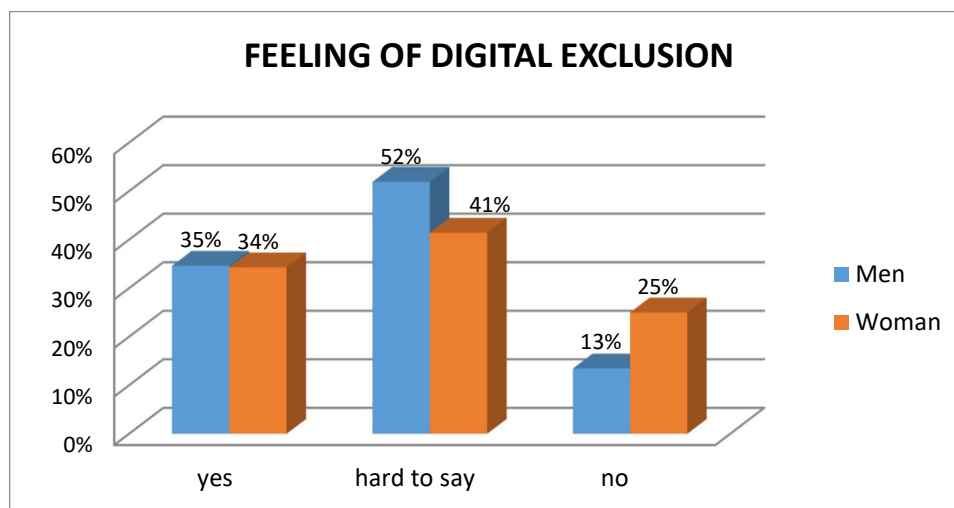


Chart 6. Feeling of digital exclusion

Source: authors' own research.

As regards the sense of digital exclusion, the respondents are mostly unable to take a stance. As many as 52% of men and 41% of women were unable to determine their stance on this matter. Quite a large percentage of men (35%) and women (34%) feel digitally excluded. Only 25% of women and 13% of men are able to cope with the challenges of the digital world.

When drawing conclusions from the conducted research, it should be stated that the problem of digital exclusion affecting a significant part of the older generation is visible.

Only 20% of women and 17% of men possess high digital competence, and 9% of women and 6% of men believe that they have very high competences of this type. The vast majority of men (79%) use a payment card. What may come as a surprise is a very low percentage of women (13%) who do not possess any credit cards. A large percentage of elderly citizens, both men (56%) and women (46%) use the internet. The vast majority of the respondents have smartphones (50% men and 46% women) or other mobile phones (42% men and 39% women). On the other hand, 17% of both women and men tend to need support from other people with regard to digital support, and 6% of men and 4% of women are convinced that such support is essential for them. A fairly high percentage of men (35%) and women (34%) admit to feeling digitally excluded.

In a situation where more and more areas of life are relocated into the Internet, older people may feel digitally excluded and may be exposed to social marginalisation. Elderly people are most likely to request assistance from people in their immediate surrounding. Most frequently, they need information on healthcare services. Reducing digital exclusion of elderly citizen should be one of the priorities of the state's social policy.

4. INSTEAD OF A CONCLUSION

Around the middle of the nineteenth century, many scientists tried to systematize chemical elements based on their properties. One of them was Dmitri Mendeleev³, who noted "a periodic repetition of the properties of chemical elements along with the increase of their atomic masses". He arranged the 63 chemical elements known to him according to the increasing atomic mass in such a way that the elements with similar properties formed columns called groups. Each of the created rows, called periods, would begin with an active metal and would end with non-metal. The correlation between the properties of chemical elements and their atomic mass, discovered by Mendeleev, is the basis of the periodic law. Mendeleev's remarkable genius allowed him to put forward a thesis on the existence of chemical elements unknown to him at the time, and to give their physical and chemical properties based only on the location of empty positions in the periodic table, which these elements were expected to fill. In fact, it turned out to be only a matter of time, and the chemical elements discovered during Dmitry Mendeleev's lifetime, as well as after his death, exhibited the properties predicted by the scholar.

The authors notice here a certain convergence with the exclusion processes that will occur in new artificial human environments. The evolution of the artificial human-made environment of the human being will also be directed towards Outer Space. Artificial creation of a climate in which the human being lives is the condition necessary for survival in such environment. Other challenges include the processes of the survival culture of biocenosis in the technicized society. The scientists sending people to conquer space, hoping to discover a new civilization, or new areas for human colonization must face these challenges in order to counteract the exclusion of astronauts during their mission in the period of expansion.

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³ Dmitri Mendeleev born 8th of February 1834, Tobolsk, d. 2nd of february 1907, St. Petersburg, Russian chemist, creator of the periodic table (<https://encyklopedia.pwn....>).

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