ТЕРМИН *DIGITAL* В ЦИФРОВОМ МИРЕ
Научная статья

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Аннотация

Основная цель статьи - изучение когнитивного значения термина 'digital' как лингвистического феномена в эпоху цифровых технологий. Теоретический анализ показывает, что этимологически термин прошел определенные этапы эволюции. В результате различные значения исследуемого термина разделились на две категории: описание процесса не электронного расчета чего-либо и электронного, многоступенчатого процесса хранения данных в виде цифровых сигналов. На основе классификации терминов по распространенности их значений в различных сферах деятельности изучен семантический объем термина 'digital' в таких областях, как надстройка, наука и экономика. В статье представлены эмпирические данные употребления различных словосочетаний с термином 'digital' (*digital skills, digital supermodel, digital education, digital health, digital transformation, digital future* и т.д.). Полученные результаты позволяют не только описать сферы, в которых используется термин, но и изучить степень влияния современного цифрового процесса на формирование социальных ценностей, поведения и культуры. В этих условиях термин 'digital'значительно расширяет сферу своего применения, обозначая, тем самым, формирование нового лингвокультурного типа «цифровой человек».

Ключевые слова: термин, 'digital', этимология, семантический объем термина, когнитивное значение.

THE TERM *DIGITAL* IN DIGITAL ENVIRONMENT
Research article

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Abstract

The paper is devoted to the study of the cognitive meaning of digital in the age of digital technology. Theoretical research shows that etymologically the term has its own stages of evolution. Analysis demonstrates various meanings of the term that can be divided into two categories: description of non-electronic process (calculation) and electronic one (multistage process of storing data in the form of digital signals). Based on the terminological classification scheme the study reveals the scope of digital in some of these areas: superstructure, science and economics. The article presents empirical evidence of different word combinations with the word 'digital' (*digital skills, digital supermodel, digital education, digital health, digital transformation, digital future* etc.) They describe not only the spheres they are used in, but also the influence of the modern digital process on the formation of social values, behaviour and culture. It shows that the term has expanded its scope and denotes the formation of a new lingvo-cultural type 'digital man'.

Keywords: digital, term, etymology, scope of the term, cognitive meaning.

1. Introduction

In the digital age, the use of the term "digital" has become widespread. As practice shows, there is a huge number of terminological phrases to describe phenomena in the technical sphere of communication. In recent years the term has expanded its scope and has denoted new concepts. It can be observed that there are many multi-word expressions, i.e. *digital economy, digital marketing, digital wellbeing, digital literacy* [1] etc. WhatIs.com, TechTarget's IT encyclopedia gives more than one hundred terms related to the word "digital" [1].

In this regard, the study of this term has become particularly relevant. The analysis shows that researchers pay special attention to the study of terminology [2], [3], [4]. Concerning computer terms they focus on metaphors used in computer science [5], [6], computer terms classifications [7], [8] and semantic changes of information technology terms [9].

We found only one research devoted to the study of the term "digital". Tore Brattli makes the research where he reveals the semantic change of the term classifying it into metaphor, metonymy, synecdoche, folk etymology, ellipsis, and broadening or narrowing [10]. Also, the author emphasizes the term's usage in a new context due to prestige and fashion: "*Digital students attend to digital classes at digital schools with digital classrooms and digital exams*" [10, P. 14].

However, the conceptual structure of the term "digital" is still under study but we will try to make an attempt of studying it in different areas of digital environment to understand how widely the term might be used.

2. The term "digital" as a concept
2.1. Etymology

To study the concept of the phenomenon "digital" it is necessary to examine its etymology. Online Etymology Dictionary gives us the following: "mid-15c., "pertaining to numbers below ten;"(appeared in 1950s) "pertaining to fingers," from Latin digitalis, from digitus "finger or toe". The numerical sense is because numerals under 10 were counted on fingers. Meaning "using numerical digits" appeared in 1938, especially of computers which run on data in the form of digits (opposed to analogue) after 1945. In reference to recording or broadcasting, became popular in 1960" [11].

As it is stated above, the term "digital" was derived from Latin (*digitus, digitalis*). Initially the term had the meaning independent of computers. It pertained to the use of computers only in the 40s. It implied a specific type of electrical pulse in the first "computer-supported" air defense systems during World War II [10]. At the last stage of its evolution, the term denoted the meaning of recording or broadcasting.

Summarizing all above mentioned, it can be concluded that the term has its own historical development and has undergone certain changes. The analysis of its definitions at present is represented in the subsequent section.

2.2. The definitions of the term

Contemporary dictionaries have detailed and similar definitions. Webster's New World Dictionary gives the following definitions of the term:

1: of or relating to the fingers or toes

2: done with a finger

3: of, relating to, or using calculation by numerical methods or by discrete units

4: composed of data in the form of especially binary digits

5: providing a readout in numerical digits

6: relating to an audio recording method in which sound waves are represented digitally (as on magnetic tape) so that in the recording wow and flutter are eliminated and background noise is reduced

7: characterized by electronic and especially computerized technology [12].

The first two meanings relate to finger work. The third definition describes the calculation process, the fourth one relates to binary numbers. The fifth and sixth meanings denote information recording or broadcasting. The last definition serves to describe electronic technology.

Similar definitions can be observed in Lexico.com, a new collaboration between Dictionary.com and Oxford University Press. It defines the term as 'involving or relating to the use of computer technology' and 'relating to, using, or storing data or information in the form of digital signals' [13].

The most appropriate definition can be found in WhatIs.com [1]: "Digital describes electronic technology that generates, stores, and processes data in terms of two states: positive and non-positive. Positive is expressed or represented by the number 1 and non-positive by number 0. Thus, data transmitted or stored with digital technology is expressed as a string of 0's and 1's. Each of these state digits is referred to as a bit (and a string of bits that a computer can address individually as a group is a byte)". Thus, the term is defined as a description of a multi-stage electronic process associated with data working.

To sum up, the term "digital" has various meanings describing non-electronic as well as electronic process of work.

The following discussion focuses on the analysis of the term "digital" scope.

3. The scope of the term

3.1. Classification as the base of empirical research

Traditionally classifications play a significant role in terminological research allowing revealing and demonstrating the logical and conceptual structure of the subject area in all its diversity. The terminological classification scheme described by V. I. Litovchenko is used in the article to define the scope of the term. It is a content-based classification whose purpose is the distribution of terms according to the following areas: science, technology, economic basis, and superstructure. Science covers as many classes as there are sciences at a certain stage of scientific and technological progress. In turn, each class of terms is allocated as many term systems as various independent theories describing physical, chemical, and other objects and patterns exist. Technology includes units of the language denoting machines, mechanisms, tools and operations process. The economic basis implies the terms of the language of political economy as well as the terms of the language of service economy. The superstructure includes the administrative and political sphere (defense, legal system, external relations, etc.) and the socio-cultural sphere (health, culture, education, etc.) [14].

Nowadays there appear the combinations of words with the certain cognitive meaning with 'digital': 'digital man', 'digital idea', 'digital future', 'digital generation' and so on. The cognitive meaning of the term "digital" in contemporary society is viewed according to the described classification.

3.2. The analysis of the practical usage of the term 'digital'

After studying the examples of the term 'digital' used in different sources (newspapers, the Corpus of Contemporary American English) we found out that except the mentioned above combinations of words there appear absolutely new and rather unexpected in the areas of superstructure, science and economics.

Superstructure and Science. The first combination which seems to be rather popular and widely used in this group is the 'digital world'. It might be viewed as a general and basic term for other definitions:

*It has been 25 years since the invention of the world wide web and more than 2 billion people are now connected. How does this information revolution affect us personally, socially and morally? Jon Ronson, Bill Bailey, Billy Bragg, Josie Long and others reveal their sinful online behaviour. Find out what pride, lust, greed, gluttony, envy, wrath and sloth mean **in the digital world**...* [15].

*"**The digital world** is a fantastic place for people to learn and share, but we know many young people struggle to find a healthy online balance, especially when they get their first phones," said Alice Webb, director of BBC Children's, in a statement* [16].

Life in the digital world forms the definite values in society which make people follow them and meet their demands. In the analyzed examples we come across the word combination 'digital skills' which are required in 'digital newsroom' and 'digital sector':

*News Corp staff will be hit by a widespread round of targeted redundancies, including 55 journalists, within day. The executive chairman, Michael Miller, has warned publicly that long-term employees who lack **digital skills** would be leaving the company. Management held meetings across departments on Monday and told staff "big cuts" would be coming. The*

*redundancies in editorial were not voluntary and would be based on a new assessment of the skills needed in a **digital newsroom*** [15].

*A technology firm has created a networking hub for a town in a bid to grow the sector locally and attract young people into the industry. Founder Shane Griffiths said: "It felt like Taunton was very much falling behind the regional **digital sector** and entrepreneurship with young people"* [16].

Taking into consideration the following examples, we understand the influence of digital culture on modern society:

*We want to grow a community of **digital professionals** and entrepreneurs who can work with the wider business community* [16].

*Balmain has used computer-generated 3D models in its latest fashion campaign. Among them is Shudu, who has been dubbed the world's first **digital supermodel**, and has previously been used to advertise other brands* [16].

*Two Utah schools participated in the original program; Lincoln Academy is the only Utah school in the **digital pilot*** [17].

The convergence of digital technologies touches even such spheres as health, healthcare, living to enhance the efficiency of healthcare delivery and make medicine more personalized and precise:

*Having more integrated care through **digital medicine** and other transformations will be key to having accountable care organizations that can compete with traditional insurance companies* [18].

***Digital health** is a fast-growing market, with one study tracking more than $8 billion in venture investment in 2018. The market could bust open once a federal Department of Health and Human Services initiative to give patients better control over their electronic health data becomes a reality* [16].

In the information era digital changes have had a great impact on education. Today "Digital education' is the innovative use of digital tools and technologies during teaching and learning, and is often referred to as Technology Enhanced Learning (TEL) or e-Learning. It is considered that the use of digital technologies gives educators the opportunity to design engaging learning opportunities in the course they teach.

*I think networked learning and the work of researchers like Peter Goodyear, Vivien Hodgson, and David McConnell has been valuable, because it was one of the first strands of academic work which took **digital education** seriously as a research domain* [18].

The problem of digitization has made many scientists and especially managers think about its influence onto the career development. The Forbes magazine conducted a survey on the importance of being digital, asking the employees three basic questions: would it be good for their careers, what must they need to know, would they be a good fit [19]. The query has showed that being a digital person requires a set of behaviors. The employees numerated eight of them:

Curious – digital people ask questions rather than answer them: 'Digital people however let the question breathe; they mull over it, debate it, see possibility, and importantly, experiment with it'.

Experiment – not to wait for the answer, but try to find it, using different gadgets: 'I had a beta of a Facebook chatbot and could manage the app from there myself. Futzing, creating, doing helped teach me. Now I don't just understand the idea of bots, I get them'.

Playful – be always troublemaking person: 'You can be an expert, you can be serious, but if you're not a bit playful and troublemaking, I'm not sure if you're my kind of digital'.

Opportunistic — digital folk are opportunistic, acting on their curious and experimental instincts: 'Whether it's cyber squatting a URL you think might be valuable someday or finding a niche for a t-shirt business because of an active thread in Reddit, digital people jump at opportunity'.

Sharing — share code, share templates, share ideas, share laughs.

Detail-oriented – digital people don't worry about having everything all figured out before starting an endeavor. They worry about minutiae in the information architecture, file naming and code, but 'with tools like Monday.com they can keep things moving and figure things out as they go'.

Speed – digital means go go go…, because these people are 'working on their side hustle'.

Wandering – is a part of curios, playful and sharing, because these people spend 'hours on a sub-thread or NASA feed because a) we're obsessed with the topic; b) we're bored; c) FOMO, and d) we can't help it' [19].

The studied examples allow us to make a suggestion that the process of forming the digital culture is going on around us:

*We no longer use phrases such as "**digital natives**", because now we simply live in a **digital culture**. All the eye-rolling over teenagers having an umbilical attachment to their phones is somewhat pointless, isn't it?*[15]

George Westerman, a research scientist with the MIT Sloan Initiative on the Digital Economy, an award-winning author of three books and dozens of other contributions, who helps senior executives drive new competitive advantage through technology expressed his attitude towards the digital technology leadership in a very interesting simile:

'When **digital transformation** *is done right, it's like a caterpillar turning into a butterfly, but when done wrong, all you have is a really fast caterpillar'* [20].

The comparison clearly illustrates the rapid development of technology and machines which has already formed the whole era of the environment where everything is connected with the values, based on the use of digital gadgets. It becomes quite obvious that everybody is surrounded with the digital environment and some people find it difficult:

*Americans feel overwhelmed in **the digital era** by the power of the tech giants* [18].

Economics. Digital culture goes beyond the day-to-day acts of doing digital work – it describes something broader and subtler than that. It involves the appreciation, the exploration and the shared enjoyment of the various digital tools, environments and artefacts which inform and facilitate our work. Nowadays we more often speak about 'digital business', 'digital economy':

*Plans to create a dedicated "digital quarter" next to Edinburgh Airport have been unveiled. A company has been set up to take forward the development of a 150-acre site in and around the airport's disused second runway. Those behind the Crosswind project aim to attract global technology companies and help develop home-grown **digital businesses*** [16].

*We know that almost all Americans are avid consumers of technology, but many lack the opportunity to do the creative work that fuels our **digital economy**… Economists keep telling those left out of our **digital future** to move to the tech hubs* [21].

Many digital innovations were caused by the desire to fasten the daily routines of a modern person in a crazy rushing world. This desire was taken into account by many technicians and marketers and nowadays nobody asks what 'digital purchase' or 'digital shopping age' is:

*The world's largest HMV store has opened its doors to shoppers just months after the chain announced dozens of branch closures. Spanning 25,000 sq ft across one floor — almost the size of 12 tennis courts — HMV Vault in Birmingham promises to become a "nirvana for music and film fans" with dedicated spaces for vinyl, CDs and DVDs as well as a performance area for bands to take to the stage. But less than a year since the company called in administrators for the second time in a decade, and closed a raft of existing stores, can this ambitious new site help restore its fortunes in an age when **digital purchases** apparently rule?* [16]

*The announcements came as M&S reported falling sales and profits in the six months to the end of September. Mr Rowe said of the UK store closures: "This is about building a sustainable, more profitable business that's relevant for our customers in a **digital shopping age**"* [16].

Thus, the examples found in different sources show that there is a process of 'digitization' going on in the modern world and it affects different spheres of human activities. We may suggest that it is changing the cultural values of the society and starts forming a new human being – 'digital man'.

4. Conclusion

The conducted research on the cognitive meaning of 'digital' and the analysis of the empirical material have made us pay special attention to cultural and linguistic ongoing changes in the contemporary world. We are witnessing a new culture phenomenon – 'digital culture'– which starts forming its own values and rules of behavior. It allows us to suggest that it might be possible to implement the theory, worked out by the Volgograd linguistic school under the leadership of Professor Vladimir Karasik [23] and start studying the lingvo-cultural type 'digital man' in the future. The above discussion makes us hypothesize that there is such a mental unit as 'digital man'. The further scientific research may cause the description of the definitions of the concept on the basis of the most important concept's names in the systematic links, including gender and opposite relations, revealing the motivation of identification, and included into the modeling concept. Finally, on the basis of the analysis of the speech of the 'digital man' the determination of language consciousness might be considered. All this underlines the urgency of the material and gives the source for future scientific research.

Конфликт интересов	**Conflict of Interest**
Не указан.	None declared.

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