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To commemorate the 75th anniversary of Victory in the World War II: how has digitalization changed our attitude to history

Olga V. Lvova

Moscow City University
29 Sheremetyevskaya St, Moscow, 127521, Russian Federation

Abstract. Problem and goal. The actual problem of digitalization means, degree and consequences of influence on fostering public and personal opinion in society is considered in the article. The purpose of the study was to show that digitalization is qualitatively changing some aspects of social life.

Methodology. Determination of digitalization means, degree and consequences of influence on some aspects of social life was carried out by analysis of work results of some sites/portals devoted to events of World War II.

Results. Digitalization nowadays is a process being quickly spread all around the world. It covers a wide range of human activities: business, industry, agriculture, education, healthcare, culture and social life. The process being very new, complex and challenging demands developing of a high (state) level strategy such as "Industrie 4.0" – one of ten projects for State Hi-Tech Strategy of Germany up 2020 or "Digital Economy of the Russian Federation". Moreover it becomes obvious that digitalization influences not only "production" but also society. In 2016 Japan released concept "Society 5.0" – a large plan of social transformations. Interesting and remarkable results in fostering some aspects of social life were also reached in the Russian Federation during preparation of Great Victory 75th anniversary celebration.

Conclusion. It is demonstrated that massive digitalization of personal archives (photos, documents, family/participant of events stories, eyewitness accounts) as well as access to archived data of state institutions and possibility to translate all information for free has fostered qualitatively new personal and social attitude to remarkable historical events.

Key words: digitalization, historical events, World War II, 75th anniversary of the Victory in the WWII, social life

Problem statement. According to definition given by Gartner (world known research and advisory company in the field of information technologies market), "digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business" [14].

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Digitalization is the introduction of digital technologies in various spheres of life to improve its quality and develop the economy. It helps to perform routine tasks and make decisions without human intervention. Digitalization supplies availability and effective promotion of products and services, transparency of economic operations and their monitoring. Because of labour productivity growth it provides increase in quality of life by better meeting needs. In 2011, the concept of industrial development "Industry 4.0" was developed first in Germany [15]. Since 2014, it has been put into practice as part of the digitalization of the economy, the state actively supports this initiative, seeking to involve small and medium-sized companies in its implementation, along with large businesses, and at the same time using it to increase the attractiveness and competitiveness of the German economic and political space.

One of the directions of standard policy was the development of international cooperation within the framework of "Industry 4.0", including with the United States, France, and Japan (in the context of similar national initiatives). Digital technologies are important for culture, leisure and tourism because it makes it more accessible. As an impact tool, it allows to create advertisements and effectively promote them to the target audience. As a research tool, it helps to analyze and model public opinion.

In 2016, Japan shared with the world a large plan for social transformation — the concept of "Society 5.0" [13]. And if German "Industry 4.0" is a kind of "smart business", then "Society 5.0" is a "super-smart society". The program is aimed at digitalization at all levels of Japanese society and the digital transformation of society itself. An important role in the development of the concept is played by the Internet of things, artificial intelligence, VR/AR, Big Data (Analytics), and so on. Meanwhile pretty bold and very far-reaching: is "the wall of social acceptance" the most society-related aspect of all in the programme. Meaning that digitalization is not only a new technology in people's lives it results in very remarkable transformations in life of society and different humanitarian areas.

A good example is digital history. That is a scientific field within history related to the use of digital media and technologies, quantitative methods, and data science methods for analyzing, organizing, and visualizing historical sources and historical information and in general three-dimensional modeling of historical and cultural heritage, virtual museums and digital collections, digital editions of historical sources. At first it includes:

- historical information systems and databases;
- analysis and digital editions of historical texts.

Thanks to the digital history users have broad access to a variety of historical knowledge on the Internet:

- experience of Russian and foreign scientists in introduction of digital technologies in historical science and historical education;
- exchange of research results in the field of historical innovation and digital history;
- discussion of the problems of using digital media and tools in the practice of historical research, in the tasks of presentation and visualization;
 - development of recommendations for the further development of digital history.

The main trends of which now are:

- visualization of historical data:
- historical cinema in the digital;
- the reflection of history in video games;
- historical communities in social networks;
- digital technologies in historical education and educational activities;
- history in cyberspace;
- digital technology in the service of historians;
- digitalization of historical science and historical education;
- the creation of computer databases of history;
- the digitization of historical sources of documents;
- online presentations of historical material;
- electronic resources in historical research;
- historical portals and sites.

Digitalization in a broad sense can be considered as a trend of effective global development only if the digital transformation of information meets the following requirements:

- it covers production, business, science, social sphere and ordinary life of citizens;
 - it is accompanied only by the effective use of its results;
 - its results are available to users of the transformed information;
 - its results are used not only by specialists, but also by ordinary citizens;
 - users of digital information have skills to work with it.

Having its own national programme of digitalization the Russian Federation proceeds in the area.

So the main prerequisite for digitalization in the ordinary life of citizens can be attributed to the use of personal computers and the Internet information and telecommunications network. Although the level of their use in Russia is lower than in Europe, and there is a serious gap in digital skills among certain groups of the population, the data presented below confirm the positive dynamics of digitalization of the processes of ordinary life of citizens. Thus, in 2016, the share of Russian residents using broadband Internet access was 18.77 %. At the same time, there were 159.95 mobile phones per 100 people, and 71.29 people out of 100 people used mobile Internet access.

The average Internet speed in Russia has increased by 29 % over the past year (to 12.2 Mbit/s), which is why Russia is on par with France, Italy and Greece in this indicator [2]. Let us consider social effect of digital technologies on society taking some trends in preparing celebration of the 75th anniversary of the Great Victory as an example. Some digital projects were launched to commemorate the 75th anniversary of the Great Victory (in the World War II and Great Patriotic War for the Soviet Union and Russian people). Let us consider five of them.

1. "OBD Memorial" a digital United Data Bank (OBD) [7] was founded in 2007 and containing information on died or missing during the Great Patriotic War and in the post-war period defenders of Motherland. The title page of the English version for "OBD Memorial" is presented in Figure 1. At the website it's possible to find information about the rank of the dead person, the military unit where he/she

served, date and cause of death (killed in action, died of wounds, missing in action) and burial place. Besides, the website provides access to the scan copies of all processed source documents, which contain information about a person.

These documents allow a precise identification of the dead or missing military man.

According to statistics for the period from 21.02.2007 to 31.01.2010, there were 4.8 million requests to the Internet resource of the "OBD Memorial" (1.8 million different visitors) from 177 countries, 9956 cities. In January 2010, on average, 6.5 thousand visits per day. In 2010, it was planned to both increase the volume of OBD and improve the software. The main scope of documents are the reports of combat units on irrecoverable losses, other archival documents, which contain casualty updates and clarifications (death notifications, documents from hospitals and medical battalions, trophy cards of Soviet prisoners of war etc.), as well as the passports of the burials of the Soviet soldiers and officers.

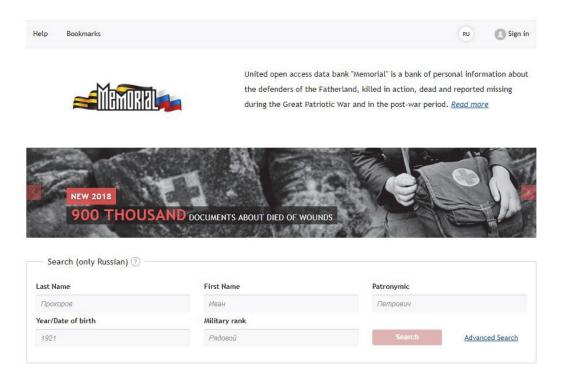


Figure 1. English version of the site "OBD Memorial"

The contents for the United Data Bank were received from the official archival documents, stored in the Central Archive of the Ministry of Defence of the Russian Federation, Central Navy Archive of the Ministry of Defence of the Russian Federation, State Military Archive of Russia, State Archive of the Russian Federation and its regional branches, the Ministry of Defence of the Russian Federation Agency for perpetuating the memory of the defenders of the Motherland. Rear Services of the Armed Forces of the Russian Federation (Military Memorial Center of the Armed Forces of the Russian Federation) have done a tremendous work, unique in scope, technology and timing, which results in the creation of a global information system unrivaled throughout the world.

2. "Feat of People in the Great Patriotic War 1941–1945" (Podvig Naroda) [11], includes the following sections: "People and awards", "Award documents", "Geography of War". The site was launched in April 2010. The title page for the site is presented in Figure 2. Completion of work on filling the data bank was planned for December 2012. As of September 28, 2012, the data bank contains information about 12,670,837 awards among them 5,88 million of non-handed awards of 8,33 listed in the Decrees of the Supreme Soviet of the Presidium of the USSR and presents a unique public information resource. This digital bank was designed for establishing the fate of relatives who took part in the Great Patriotic War. It also helps find information about awards and get acquainted with the original archival documents containing information about the participants of the war and the course of the war: reports on the dead and missing, award lists, logs of combat operations. Digitalization of these data as well as the awards lists and orders after 1946 is one of the priority tasks of the project.

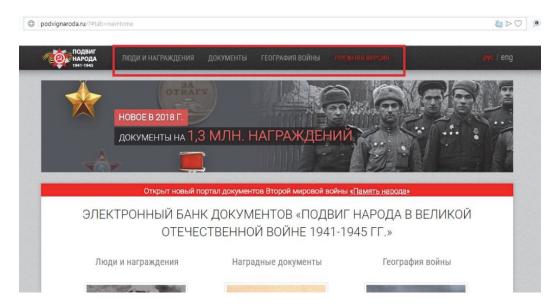


Figure 2. Title page of the site "Feat of People"

3. "Pamyat Naroda" (Memory of People) [8] portal combining databases of projects previously implemented by the Ministry of Defense of the Russian Federation about the World War II "OBD Memorial" and "Feat of People" and containing also information about the losses and awards of soldiers and officers of the World War I was launched in 2015. The title page for the site is presented in Figure 3. The main objective of the project is to provide users with access to the most complete information on the participants in the Great Patriotic War through new interactive tools and the development of such united data banks as "Memorial" and "Feat of People in the Great Patriotic War 1941–1945". The project has for the first time digitized and put on the Internet 425 thousand archival documents of the fronts, armies and other formations of the Red Army.

These are the original documents of the battle actions, orders, command reports, operational descriptions of the combat situation. This the most complete and unparalleled information resource about the World War II to date contains more

than 425 thousand documents of armies and fronts about 216 combat operations. Every year millions of users from all over the world search for relatives on the portal "Memory of People". The peak of activity falls on the May holidays: during this period, the portal is visited by more than a million users daily (about 1000 per minute).

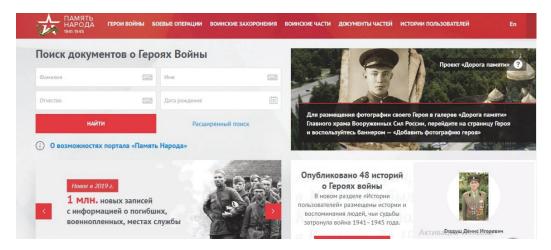


Figure 3. Title page of the site "Memory of People"

Only in the first months of 2015, more than 15 million pages of documents regarding the exploits and losses were copied to personal archives from the "Memory of People" portal. Only in 2019 were added 60 thousand cases with documents of units and maps of military operations 1 million new records with information about the dead, prisoners of war, places of service. More than 4 million pages of lists of personnel spare rifle units and cards of the deceased from the file of injuries.

The new section "User stories" contains stories and memories of people whose lives were affected by the war of 1941–1945. In the "Combat operations" section, the "timeline" tool (a new ICT tool) has been added to quickly search for combat operations in the period you are interested in. In 2008 it was awarded the award CNews AWARDS as the most socially significant IT project.

- 4. "Doroga Pamyati" (Memory Road) [12] is a unique multimedia project launched in January, 2020 as a public unified database about each participant of the Great Patriotic War. The title page for the site is presented in Figure 4. "Memory Road" is a resource that is constantly updated with new information and photos, as well as an interactive platform for creating family history. In the personal accounts of users, it is possible to place the family history and ancestor's feat, additions and clarifications of current data on defenders of the Motherland. The project is designed to unite compatriots with the idea of perpetuating all participants in the war, preserving the historical past, developing patriotism, and military glory of Russia, and is timed to the 75th anniversary of the Great Victory.
- 5. TV project "Pomnim kazhdogo" (Remember Everyone) of TV channel "Russia 24" [10]. It was organized in cooperation with the Office of the Ministry of Defense of the Russian Federation on perpetuating of memory of victims at defense of Motherland and the Internet portal of documents on the World War II

"Memory of People". The screenshot of Memory Board at "Russia 24" channel is presented in Figure 5. From February 23 to May 8, 2020, the channel will show a digital Memory Board every day live. For 76 days, the names of 12,677,857 fighters will appear on the screen around the clock: 121,400 names per day, 6,070 per hour, 100 per minute.

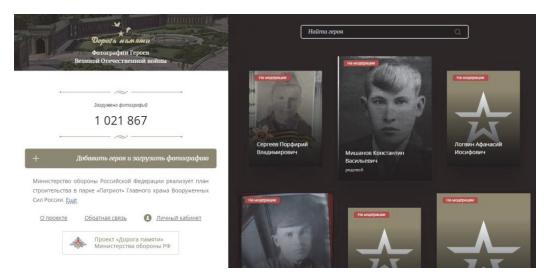


Figure 4. Title page of the site "Memory Road"

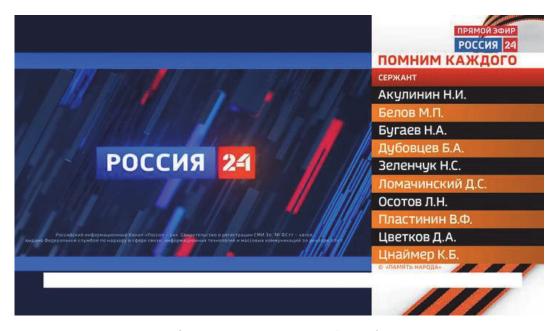


Figure 5. Screenshot of Memory Board at "Russia 24" channel

The digital Memory Board will be implemented thanks to a special hardware and software package. It integrates the database-real surnames, first names, patronymics, titles and positions of fighters – into the graphic design of the TV channel.

Methods of research. Analysis of work results of some sites/portals devoted to events of World War II and their influence on some aspects of social life.

Results and discussion. First of all, it should be noted that the projects presented in this article are not the only ones on this topic other being presented as well. Such as monuments [9], memories of participants in the war [3], family archive photos of the war and post war period [6]. All of them are aimed to creating online database of participants in the war to immortalize the memory of these people not only in hearts but also in electronic form – not subjected to the breath of time and accessible to everyone in Russia and abroad.

The projects have Russian and English versions meaning that with the help of e-translators the information from any database becomes accessible and understandable all over the world.

Chosen projects (except the 5th) are not a private initiative. The work was started in accordance with the list of instructions of the President of the Russian Federation dated April 23, 2003 no. PR-698 "On the organization of military memorial work in the Russian Federation" and decree of January 22, 2006 no. 37 "Issues of perpetuating the memory of those who died in the defense of the Motherland" [3] showing great support of the projects by the government due to their social importance. Moreover only combined efforts of the state, public organizations, scientific and technical companies allowed launching of the projects [4; 5].

On one hand the implementation of such a project requires the construction of a multi-stage chain for collecting, verifying, digitizing paper arrays counting millions of pages, loading data into a powerful search engine, providing global multi-user access to the documents on the other hand every person who participated in its creation feels a special responsibility for the fact that every mistake can fundamentally change the fate of a soldier. A good example is digitalization of Central Archive of Defense Ministry documents, totaling about 19 million sheets. Specially for the task planetary scanners to cope with easily damaged documents (without contact with the object being scanned while scanning) were developed.

But because of the fact that the documents are 70 years old, machine text recognition did not cope with the task, allowing about 50% of errors. To solve this problem, 5,000 operators were involved at home, and to minimize their errors, each document was recognized by two operators, and if their results matched after machine verification, the data was entered in the database. Nowadays works on the replenishment of the database continue due to the participation of plain people supporting different information about their relatives having participated in the World War II. To date, no country in the world has this kind of data bank concerning its trend, dimensions and first of all social importance.

One can easily see that projects are developing not only inside (for example, it is planning to replenish "OBD Memorial" with information about the dead and missing soldiers during other military conflicts of the XX century, which is stored in the archives of the Russian Federation) but also they give start to another projects. For example, clarification of the information about specific individuals and combination of records from different sources relating to one same person as well as users feedback system promoted start of another more expanded data bank "Podvig naroda" (Feat of People) which in its turn leads to launch in 2015 of the portal "Pamyat naroda" (Memory of People) which combines databases of projects previously implemented by the Ministry of Defense of the Russian Federation about

the World War II "OBD Memorial" and "Feat of People", and also contains information about the losses and awards of soldiers and officers of the World War I.

Thanks to the information resource, archival documents about the heroes of the Great Patriotic War have become available to users from any country. Moreover on the basis of documents and data published on the portal, patriotic actions such as TV project "Remember Everyone" of TV channel "Russia 24", social movement "Immortal Regiment" is developing.

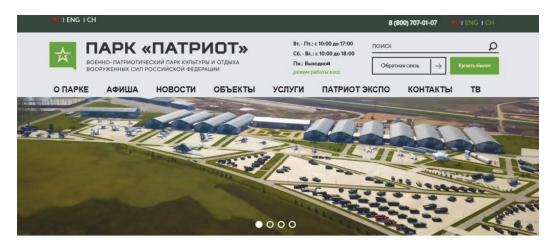


Figure 6. Plan of Memorial Park "Patriot"

The "Road of Memory" will continue in the form of the largest monument with the names and portraits of the heroes of the Great Patriotic War on the territory of the Military-Patriotic Park of Culture and Recreation "Patriot" (Figure 6), where the main temple of the Armed Forces of the Russian Federation is being built. A memorial road will be built to the temple complex – a memorial that memorializes millions of names of war participants who fought for their Motherland. Being a multimedia project with high level of digitalization and application of different ICT technologies it helps to save forever personal records, supplemented with portraits in the hearts of compatriots and descendants thus developing concept of "super smart society".

Conclusion. Analysis of the Russian Federation projects related to the World War II resulted in the following:

- digitalization including new ways of transmitting and presenting information, as well as the widespread availability of online translators makes it possible to involve the population in the project on a completely different huge scale;
- feedback, which is widely used thanks to ICT, plays a large, if not decisive role in the development of large-scale (in the case, nationwide) projects;
- new technologies creates unique opportunities to save forever information about historical events (archival documents, including photos, videos, and eyewitness memories).

Projects launched as virtual ones in "super smart society" give start to real large scale acts of humanistic orientation.

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Bio note:

Olga V. Lvova, candidate of pedagogical sciences, docent of the department of informatization of education of Moscow City University. E-mail: olglvova@yandex.ru.ru

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Научная статья

В ознаменование 75-й годовщины Победы во Второй мировой войне: как цифровизация меняет наше отношение к истории

О.В. Львова

Московский городской педагогический университет Российская Федерация, 127521, Москва, ул. Шереметьевская, 29

Аннотация. *Проблема и цель*. В статье рассмотрены актуальные вопросы влияния средств, степени и последствий цифровизации на формирование общественного мнения и личных воззрений в социуме. Цель описанного исследования – доказать, что цифровизация качественно изменяет некоторые аспекты общественной жизни.

Методология. Выявление влияния средств, степени и последствий цифровизации на некоторые аспекты жизни общества было осуществлено с помощью рассмотрения результатов работы некоторых сайтов/порталов, посвященных событиям Второй мировой войны.

Результаты. В настоящее время цифровизация является бурно распространяющимся по всему миру процессом. Она охватывает многие области человеческой деятельности: бизнес, промышленность, сельское хозяйство, образование, здравоохранение, культуру и общественную жизнь. Будучи абсолютно новым, сложным и неординарным, данный процесс требует стратегий, разрабатываемых на самом высоком (государственном) уровне, таких как Industrie 4.0, один из десяти проектов государственной стратегии высоких технологий Германии на период до 2020 г., или «Цифровая экономика Российской Федерации». Более того, становится очевидным, что цифровизация влияет не только на «производственную сферу», но и на общество. В 2016 г. Япония выдвинула концепцию Society 5.0 – масштабный план социальных преобразований. Интересные и значимые результаты в формировании некоторых аспектов жизни общества были также достигнуты в Российской Федерации в рамках подготовки к празднованию 75-летия Великой Победы.

Заключение. Показано, что широкомасштабная цифровизация личных архивов (фотографии, документы, рассказы о событиях их участников или их близких, свидетельства очевидцев), а также доступ к данным архивов государственных учреждений, наряду с возможностью бесплатного перевода практически на все языки мира, сформировали качественно новое личное и общественное отношение к значимым историческим событиям.

Ключевые слова: цифровизация, исторические события, Вторая Мировая Война, 75-я годовщина победы в ВОВ, жизнь общества

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Сведения об авторе:

Львова Ольга Владимировна, кандидат педагогических наук, доцент кафедры информатизации образования Московского городского педагогического университета. E-mail: olglvova@yandex.ru