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SOCIETY VIRTUALIZATION AS CIVILIZATION TREND

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Abstract. The article analyzes the processes of society virtualization, forming the civilization trend of a century turn. The substitution of things and real actions by the images and communications is characteristic for all countries that passed modernization and were caught up in the post-modern social and cultural situation. Based on the analysis of economic and political trends, characteristic of most developed countries it was concluded that the orientation of practices on images and not things leads to the simulation of social institutions. Institutions become some sort of virtual reality. In such countries of catch-up modernization as Russia, where industrialization, the development of mass consumption society, the development of mass democracy institutions began later than in Western Europe and North America, virtualization has its own characteristics.

Keywords: virtualization; images; communications; computerization.

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ВИРТУАЛИЗАЦИЯ ОБЩЕСТВА
КАК ЦИВИЛИЗАЦИОННЫЙ ТРЕНД

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Аннотация. В статье анализируются процессы виртуализации общества, образующие цивилизационный тренд рубежа столетий. Замещение вещей и реальных действий образами и коммуникациями характерно для всех стран, прошедших модернизацию и оказавшихся в социокультурной ситуации Постмодерна. На основе анализа экономических и политических тенденций, характерных для наиболее развитых стран мира сделан вывод, что ориентация практик не на вещи, а на образы ведет к симуляции социальных институтов. Институты превращаются в своего рода виртуальную реальность. В таких странах догоняющей модернизации, как Россия, где индустриализация, становление общества массового потребления, развитие институтов массовой демократии начались позже, чем в Западной Европе и Северной Америке, виртуализация имеет свои особенности.

Ключевые слова: виртуализация; образы; коммуникации; компьютеризация.

The computerization of all spheres of social activity and everyday life which occurred at the turn of XX-XXI centuries is the most impressive phenomenon of modern civilization. The number of computers per thousand people in the most technologically and economically developed countries - the US, Germany, Britain, Japan, reached 300-500 units by the end of 1990s and made 700-900 units by 2010. The saturation level of human existence with computers is higher than with such «idols» of XX-th century civilization as a car and a tv-set [1]. In addition to quantitative growth, a great impression on any analyst is produced by the

growing number of functions - the methods of computer technology use. A computer turned from a simple calculating machine, called earlier by such half-forgotten acronym as ECM, into a universal device which may equally serve as a professional tool for scientists, engineers, businessmen, lawyers, doctors, and as a means of learning, everyday communication, and entertainment.

The phenomenal spread of computers and their penetration into the social and existential structures of mankind caused an interest of social philosophers and sociologists, theorists, many of whom began to interpret the computerization as a key trend in the

transformation of modern society. However, the scientific community generally follows the path of new trend «embedding» in the overall series with the previous ones, according to the way of fitting the facts under the traditional explanatory models. Perhaps the most popular is the thesis, which states that the proliferation of computers and computer networks (in particular the development of the Internet) is a crucial step on the way to the information society. But if we take into account the fact that the theorists of the information society D. Bell, A. Touraine, A. Toffler, P. Drucker, Z. Brzezinski, J. Masuda, M. Castells et al. [2; 3; 4; 5; 6, 7, 8], understood information as scientific knowledge mainly, the analysis of trends at the beginning of a new century leads to a paradoxical conclusion: the introduction of digital technologies in a person's life rather removes us from the society based on knowledge.

The society, where the following principle is implemented «who owns the information, owns the world» did not appear, although the basic technical and economic attributes of the post-industrial era are obvious: the predominance of services in GDP, the reduction of employment share in «secondary» and the growth of «tertiary» sector in economics¹, total computerization, etc. We live in the world where produced knowledge is apparently less profitable than the produced impression. Basic facts prove it. For example, scientific knowledge is, at best, brings one million dollars one time (usually at the end of life) to several outstanding scientists - Nobel Prize winners. At the same time hundreds of people who do not operate scientific knowledge and do not have any unique information - supermodels, professional athletes, actors, entertainers and pop singers receive several million dollars annually. And the «superstars» of the post-industrial economy get an order or even two orders more. So in 2010, the TV-hostess Oprah Winfrey earned \$ 315 million, the golfer Tiger Woods earned 105 million, the pop singer Beyonce earned 87 million, the actor Johnny Depp earned 75 million, the footballer Cristiano Ronaldo earned 36 million, the model Gisele Bundchen earned 25 million. The fact is that «superstars» earn in a single year, and the average entertainers and athletes in 5-10 years, the money which the holders of academic degrees can not earn in a lifetime. In the US the average earnings of a Doctor of Science and a Professor will be at best \$ 5 million, but only after 40 (!) years of continuous career.

These facts are hard to explain, believing in the reality of the «information society» based on the

priority of knowledge. But they can be easily explained if one understands that in the context of post-industrial capitalism, the main principle is different one: «who owns the attention, owns the world». It's really a new society and a new economics that is different from the industrial economy, where the production i.e. the work with a product was the major factor. The principal novelty is not in informatization, but in the fact that the operation with eye-catching images, exciting the emotions of consumers, creates another economics and another society, which is similar to virtual reality. In this new reality a high-tech, knowledge-intensive product and a product primitive from the standpoint of science and technology, but full of image perceived as a fashionable, prestigious, exclusive one, etc. are costly.

The refusal of information society model from uncritical acceptance with its characteristic technological determinism opens the prospect of a more adequate interpretation of the computer revolution as one of society transformation trends. The computerisation of everyday life enters virtual reality into use as the computer simulations of real things and actions. It is important, for example, not only that you can make purchases via a computer connected to the Internet node, but also that the process of buying is organized more often as a virtual visit to a store. If using a sophisticated computer graphics a web-page of a vendor simulates the layout of the goods on a shop-window, their inspection and exchange for a fee in the form of banknotes or checks, then it should be interpreted not just as the transfer of purchase and sales operation from a real space into a virtual one, but as the simulation of commodity exchange institutional form. This institutional form turns the exchange as a technical operation into some kind of economic interaction, into the execution of a buyer and a seller social roles. The exchange through the Internet allows you to make the exchange of money, goods and services without complying with this institutional form. There is some communication, but it lacks a usual social skill, the society as the medium of interaction. So the society in its traditional sense is replaced by a cyber prosthesis - a virtual shop. Using the technologies of virtual reality the simulation of institutional exchange is created. An exchange is carried out as a simulation - a virtual analogue of a real social interaction.

The cyber prosthetics of institutional forms is a characteristic feature of other forms of virtual collaboration - virtual communities, virtual corporations, virtual entertainment, virtual crimes and virtual absolutism. Today, using a computer equipped with a modem, you may discuss politics, pop stars, weather or have idle conversations with virtual friends or neighbors - the members of chat rooms, forums, social networks. You may earn money by taking orders for advertising on virtual billboards -

¹ In economic theory, an agricultural and commodity sector is usually called "prime" one and the production (industrial) sector is called "secondary" one, and the service sector is called "tertiary" one.

banners, win money in virtual casinos or steal money, hacking the virtual locks of an electronic accounting system of some bank. You may reveal one's sins and repent of one's deeds using virtual sermons and confessions on the web-pages that are opened by priests as virtual parishes [9].

All of these listed and not listed interactions are performed as the virtual analogues of real social interactions. At that there is the substitution of a real performance of social roles by simulation, an image of institutionality real attributes is developed. Virtual communities simulate a direct presence in communication and a social proximity of communicating people. Virtual corporations simulate contracting procedures and the existence of an organization as a business entity. A virtual casino simulates a game partner competition. Virtual hack simulates the violation of property rights among bank depositors. A virtual parish simulates the arrival the education of a humble flock by a shepherd.

Such an intense use of virtual reality technologies during recent years has a social significance - the replacement of the social reality by its computer simulations. This social aspect of computer technology development clearly prevails a technical aspect. That is why the processor speed and memory capacity increase with is converted almost completely to improve the graphics and sounds of computer simulations and are not accompanied by noticeable functional changes. The revealing of virtual reality technology social meaning brings sociologists necessarily to the idea of virtuality concept use in order to explain social changes.

There are two basic meanings of the concept «virtual». The first one goes back to the traditional natural science, in which the meaning of the term «virtual» is revealed through the contrast of ephemerality between infinitesimal movements of objects or the infinitesimally small periods of particle existence and stable reality within their spatial and temporal characteristics. The second meaning is generated by the practice of computer simulation creation and use and is revealed through the contrast between illusory objects created by the means of computer graphics, and the reality of material objects. Both meanings are related paradoxically in the concept of «virtual reality». The behavior of an imagined object reproduces the spatial and temporal characteristics of a real object behavior.

One may specify three characteristics as the universal properties of virtual reality:

- Non-material exposure (a depicted image produces the effects that are typical for a real thing);
- Conditionality of options (objects are artificial and changeable);

– Ephemerality (freedom of input/output allows the interruption and the resumption of existence).

One may speak about the virtualization with regard to the public as society becomes like a virtual reality, that is, it may be described with the same characteristics. Virtualization in this case is any substitution of reality by its simulation / image - not necessarily with the help of computer technology, but always with the use of virtual reality logic. This logic may be observed where computers are not used directly. For example, the virtual economy may be represented by the business operations which are conducted primarily through the Internet, and the situations when the speculations of the stock market prevail over material production. Virtual policy may be represented by the struggle for power and agitation using web-pages, or press conferences in the Internet, and through advertising campaigns in a TV studio or on a specific platform.

The definition of social phenomena using the concept of virtuality is appropriate when the competition of images replaces the competition of institutionally specific actions - economic, political or other ones. The social content of virtualization i.e. the simulation of the society institutional structure of society is primary one in relation to the technical content. The general understanding of reality substitution phenomenon by images allows you to develop an own sociological approach: society is not virtualized through the computerization of life but the life is computerized through the virtualization of society. That is why the distribution of virtual reality technologies occurs as cyber prosthetics. It is caused by the desire to compensate the absence of social reality using computer simulations.

Virtual reality involves human interaction with simulations but not with things. The reality of the modern era society is a reified institutional structure, making practices independent of an individual aspirations. An individual, being in a social reality of institutions, perceives it as a natural reality in which he has to live. During the postmodern era an individual is immersed in a virtual reality of simulations and increasingly sees the world as a game environment, cognizing its conventionality, the control of its parameters and the possibility of getting out of it. The distinction between old and new types of social organization using the dichotomy «real/virtual» allows us to introduce the concept of virtualization as the process of institutionalized practices substitution by simulations. Thus, the term «virtualization» is not only an adequate phenomenon describing as post-modernism and the «end of the social», but appears as a more heuristic than two latter concepts, because it opens the

prospect of conceptualization not of the «end» or «disappearance» of the old society but the process of a new one development.

With regard to society as a whole, virtualization is presented not as a single process, but rather as a series of diverse but similarly aimed trends in various spheres of life. This may be illustrated by the description of the modernist institutionalized practice simulation in key institutional areas of (post) modern society: in economy and in politics.

The economics virtualization is clearly visible in the transformation of main economy institutions of capitalism occurred during last three - four decades: market, firm and finance. Economic institutions form a set of rules and regulations which determine socially acceptable ways of creation from the point of view of modern people, the distribution and the use of wealth. Following regulatory requirements turns economic activity into the performance of «manufacturer», «consumer», «businessman», «worker», «creditor», «borrower» social roles, etc. Institutions - a market, a firm, finances is the reality in relation to the individual objectives. This reality has to be taken into account.

The reality of economic institutions becomes a virtual one while the industry ceases to dominate in the economics, ceases to determine what is an «economic thing» and what is worth doing. Economy becomes a post-industrial one because the production of any thing after two centuries of technological progress is not an economic problem anymore. Mass production provides the filling of the market by a huge number of almost homogeneous things by quality, and the production itself is a precondition for the production of a new economy. Consumption is the number one problem for a developed economy or rather the transformation of produced things into commodities. Manufacturers manage to solve this problem highlighting their product from a series of other competing products and attracting the attention of consumers. Thus, within the conditions of mass production and mass consumption a brand acts as a commodity - an image created by advertising and marketing and associated with a product or a company by consumers. A manufacturer produces not a thing (a shampoo, a costume, a car ...) for the market, but the image (attractiveness, respectability, prestige ...).

A physical object of advertising ceases to be signified and becomes a signifying in relation to an advertised image. The commercials and posters depicting a happy family, a cheerful company at a disco or a lone hero, engaged in extreme tourism, do not indicate the real product properties for a

consumer, which may be anything from yogurt and beer to a deodorant and a car. But such a product met after the view of an advertising clearly indicates an attractive lifestyle and image for a consumer, virtually contained in a product somewhere between bifidobacteria and calcium, or between an original design and high maneuverability. In the new economy a product acts only as an information occasion for the promotion of goods and becomes an alibi for those who initiate promotional campaigns to promote «health, happiness» under the sign of yogurt, «sex appeal», under the guise of cosmetics or «success» under a brand of a car.

A brand defines the cost of a thing, and a brand requires a lot of work with images. Therefore, an actual economic process, that is, the creation of value, leaves an arable land, a mine, a design bureau and an assembly line moves to an office of marketing and business consultant, in an advertising agency and a mass media studio. Thousands of employees also rush there, changing the economics structure and making the branches previously attributed to the «non-manufacturing» the most productive ones.

The increase of an image economic role is illustrated by the data about the faster pace of advertising industry growth in comparison with the conventional production. At the turn of XX-th and XXI-st century an average annual growth of advertising costs in the world made about 6%, while the growth of the world GDP made only 3% [10]. The economy of images develops a new type of a market. Companies and consumers interact now not within real product market and their manufacturers but within the market of brands and the rightholders controlling the use of brands. The number of independent producers decreases and the number of brands increases. For example, P&G company, acquired the right to use 11 trademarks in 5 years, and in 2005, it became the holder of 50 brands and it may create and maintain the «competitive» markets of washing powders, shampoos, toothpastes or shaving supplies on its own.

The example of car markets is also representative: during the 1990s the number of independent car manufacturers operating on a global level decreased from 21 to 13 and the number of automobile brands rose from 63 to 65. Absorbing the competitors and unifying the design and vehicle manufacturing technologies, the company maintains the competition at the expense of the images that define the behavior of consumers. The varying of models differing by an image is more cost-effective than the development of various designs. At the beginning of the XXI-st century the competing automaking corporations started to use common «platforms» for the production of their own models that are offered to a consumer in the same market segment as «wide range» options.

So the performance of market agent roles dictated by institutional norms - competing producers reacting by offer to a demand becomes a virtual one. If you can make the same thing (from a functional point of view), and the differences in formal details may represent the variety of choice, then the market is a virtual reality as a social institution and as the regulator of economic behavior.

Consumers plunged into the virtual reality of market brands seem like innocent victims of manipulators. Especially this impression is reinforced by «umbrella» brands covering a long line of different products in one way. The limit of brand managers, marketers and advertisers craftiness is the sales of motorcycles and children's clothes with the logo Harley-Davidson, or the sale of shoes, a mobile phone and a Bluetooth headset with a common logo of Dolce & Gabbana. Purchasing such clothes or a headset, consumers pay (a lot) for the quality of cut or the quality of communication, which in the best case no worse than among the others, and for the involvement, even illusory one, to the image of «tough guys» or «rich and stylish». The acquisition is a clearly virtual one, however, such virtualization of consumption is a beneficial process which is even necessary for consumers. The brands carrying more information about a consumer lifestyle rather than about the product, serve as a convenient material for identity creation and getting symbolically «loaded» products, consumers act quite rationally. Identity as a self-expression and belonging to a group, community, etc. is achieved by a man through consumption.

The virtualization of production and the development of brand market change the relation to the traditional organization of labor, resulting in the virtualization of a company as an economic institution. Since the value is created not on a line and not at a design office, it the attributes of an industrial organization are not needed often any longer: offices, where jobs are developed and filled by workers according to the model of the technological chain conveyor; the procedures of labor cost control; the complex hierarchy of authorities, and so on. All the more those who are engaged in a post-industrial economy and work with a virtual product - images, new information and communication technologies make work almost everywhere: at home, at a client's office, at a hotel, in a car, in an airplane.

The respond to this challenge is the emergence of a new organizational form idea in the early 1990s, which was called «a virtual corporation» [11, 12]. Virtual corporation is a temporary alliance of independent companies or even individual agents to address the strategic, but a single task. An alliance, according to the adherents of virtual corporation

concept should exist as a network structure based on the information and communication technologies, by which companies coordinate their efforts of project implementation. A virtual corporation has no vertical integration, a central office, a job hierarchy, and other attributes of «real» corporation. After the completion of a project a network may be easily reconfigured or even dissolved.

Since the mid 1990s, large industrial corporations and banks form a «one time» alliances for the creation and promotion of a product, and open virtual offices in the Internet. For example, such a computer industry giant as IBM develops new projects on the basis of temporary strategic alliances. At that a quarter of IBM employees spend 80% of their time at home or on the road, sharing the results of their work with each other and with their headquarters through computer networks forming a virtual component of the company organization. Such corporations as Nike and Dell are even more virtual and they do not have their own production facilities, but they are market leaders, respectively in the field of sportswear and personal computers. These corporations have perfected the practice of outsourcing, i.e. the removal of inventory management and production functions outside the company, and formed an established network of suppliers around their brands involved in the business processes of the company by contractual relationships. Another type of a virtual corporation are presented by the companies that create a network of small firms operating on the basis of licenses and subcontracts. For example, McDonald's or Benetton work in such a way. They are large corporations only virtually - they are the networks of autonomous market agents, combined by brand: a brand name, a work concept and style. Thus, a virtual corporation at the beginning of the XXI century turns into a routine and widespread practice from an extravagant organizational form.

The organization of labor in the form of a «work day» as the routine of office presence or a schedule of technological operation performance loses an economic content. However, there is no full «dematerialization» of the companies and the global operation within the Internet, suggested by the ideologues of corporate virtualization. Of course, there are «exemplary» virtual organizations, such as the company Dell, which already by 2000, received and processed 90% of orders for the supply of computers on-line, as has formed a global network of suppliers, who produced the computers ordered by users. But the amount of such companies is small: in 2005 only 14% of companies in the US and 10% of companies in the European Union carried out orders and provided customer services through a global computer network. The vast majority of companies use the Internet to maintain communications and restrict its presence in

the global «web» by placing digital advertising brochure - a corporate website.

The virtualization of the company did not turn into «dematerialization», because the image of a large, «real» company largely ensures the success to the image of goods/services. Therefore, along with a network, project-oriented structure and Internet offices traditional corporate bureaucracy and huge headquarters are maintained and are even developed. And it is also the manifestation of virtualization, as the main function of these armies of clerks is the creation and the maintaining of a corporate image. Now the «non-economic», aesthetic and socio-psychological aspects of work organization and the company functioning - office design, corporate style, the cultivation of public relations (PR) attain a directly economic sense, because their sense is to maintain the attributes of an employee image and the operating organization. They become important components of a company image creation that determines the price of its offered goods/services. That is why an office design, a corporate image and PR events are converted into a special kind of products and develop new and rapidly growing economy sectors.

An image of a company is not only the factor of its product value, this image has its own and even self-sufficient cost. For example, the Apple brand in 2015 was recognized as the most expensive one in the world and was priced by the international rating agency InterBrand at the amount of 170 billion dollars, and the agency MillwardBrown priced this brand at the amount of 247 billion. At that the cost of all material assets of the company - factories, offices, equipment, vehicles, stocks is much smaller. A «promoted» brand is a virtual asset, which is the main asset of the company.

Brand is a virtual, that is not material, but very tangible capital. A company image as a specific commodity is thrown into the stock market. The virtualization of the company enhances the virtualization of the market, creating a completely virtual sector of economy - a market where not the company securities but their images are quoted: pictures, goodwill, rumors. In the most economically developed countries, the volumes of capital traded on stock exchanges, rose during the last years of the XX-th century so much that they became comparable to the size of an annual gross domestic product. A stock exchange boom on the background of a much less intensive production growth (2-3% per year), and thus the return on equity may be interpreted as the autonomization of corporate image market in relation to the «real» economy sector. Multimillion-dollar assets may appear at quote increase or disappear at quote decrease within days or even hours at a stock

market, while the physical assets of the companies, whose shares are quoted, remain the same.

The phenomenon of speculative capital demonstrates the virtuality of the company institute: the company value depends more on an image and communications than on company physical asset owing and on their use. A company is important as an organization image. Therefore, getting rid of hierarchically integrated organization and transferring the functions of a physical product manufacture to «manufacturing partners» (Nike executives named shoe and garment factories working for corporations in South-East Asia), the companies retain the focus of business processes and corporate identity by the development of a communication network around the brand. In such network structures the execution of organization member roles, who clearly follow the official duties of employees and managers, set by institutional standards becomes a virtual one. The competencies that are typical for the organization of industrial type are represented only, but the main competence becomes the maintaining of effective communications. The efficiency of communications depends on the ability to create and broadcast the images which attract the attention of target audience to a product (including internal one i.e. its employees), every second facing intense flows of alternative proposals.

The virtualization of production allows to raise the price of goods from the level of the product cost to the level of the brand cost would have to stumble across the barrier of reality created by the most symbolic component of the traditional economy i.e. money. Solvency, limited by the number of existing currency value possessed by a consumer should limit the «sales potential» of brands. But in the new economy the process of virtualization seized money. The function of money is performed not by material (metal, paper or plastic) equivalent of value but by drawing rights. The consumption rate in developed countries is not determined by the amount of money among consumers, but by their financial capabilities.

The credit system extended to a wider range of goods and services, brings the financial opportunities beyond real payment capacity. By 2001, the volume of consumer loans made made 74% of GDP in the US, i.e. more than \$ 25,000 per capita on average, and in the European Union countries it made 52%, or about 10,000 euro per inhabitant¹. Creating a virtually solvent demand from consumers, the credit system makes the «origin» of this demand an important factor. «Good origin» is guaranteed the solvency method, which may be created by a potential borrower. The solvency image

¹ Data taken from the magazine "Expert" (2002).

determines the financial capacity of credit institution clients, which have the same amount of real money, but different financial reputation, obtain different volumes of drawing rights.

Money is personalized, it loses the properties of indifferent objective reality in respect to a person. The tracking of individual «credit history», an electronic signature, the ability to block a lost credit card, the application of photo and fingerprint samples on a credit card are convert the solvency into the function related to a person identification, but not from the possession of anonymous money signs. The lending of an image and personalization lead to the fact that money is increasingly replaced by the possibility of money in a new economy.

A virtual solvency of individual customers, based not on the possession of real payment means, but on the access to the rights of borrowing, manifests itself in a rapid spread of credit cards and an equally rapid growth of a credit card debt. The leader in this regard, is the US economy, where the number of banknotes in circulation during doubled during 1985-95 and increased to about 350 mln. pieces, and its debt tripled during the same period, surpassing the mark of \$ 300 billion. After another decade, by 2006 the number of credit cards reached 1.5 billion pieces¹, and credit card debt amounted to about 600 billion.

Playing the solvency by using credit cards in shops and by the means of guarantees, references and a respectable appearance in banks, consumers open their access to new financial sources and may accumulate debts that exceed their income and therefore will not be returned in principle. However, such an economy of debt is not destroyed, because it is balanced within the conditions of virtualization: the producers of brands receive a virtual payment in the form of consumer debts.

Banks also create an image of solvency as they operate through virtual money repeatedly transferred («manipulated») drawing rights that expand the money supply M_0 (cash) to M_3 aggregate (cash + «almost money»). The virtual part of the total monetary aggregate M_3 is formed by short-term deposits, deposits, bonds, and can not be converted into cash immediately for a simple reason that this part is the product of multiplication. For example, a bank which received a certain amount of cash reserves from a client as a deposit keeps in its safe a part of a sum determined by the central bank standard as a reserve, and the bulk of the sum provides as a credit to another customer. As a result, there are two clients with the rights to same money. And additional money appears created by the bank, not a state, contributing the virtual mass M_3 increase.

¹ For reference: the US population in 1995 was 263 million and in 2010 it made about 300 million people.

Therefore, the virtualization of money, its turning into an image function leads to the fact that performance of a «payer», a «creditor» and a «debtor» roles pursuant to the rules prescribed by institutional standards «payer», «creditor» and «debtor» becomes a virtual one. The picturing of solvency turns finances as an economic institution in a virtual reality.

The virtualization of production and organization of money developed a post-industrial economy, the basic elements of which is an image, a network, an access. Accordingly, the most effective tool of the new economic activity is presented by those technologies that provide the work with images, the construction of networks and the organization of access. These qualities are presented in communication technologies, and therefore all their varieties from newspapers and magazines to radio and television were integrated into a new economy of image creation. However, a universal media tool - a personal computer with a moden - became the symbol of the new economy.

Generally speaking, the first computers (mainframes) appeared in the 1940-s, and the first PC-s appeared in the 1960s. But total computerization began only when the computers could become a virtualization tool when they gave the opportunity to work with images, to build networks and to organize access. The last two decades of the last century became a critical period. In 1981, IBM company released a computer which set the technological standard of «PC», and after 10 years the US had 200 computers per 1,000 people, and after another 10 years the number of computers amounted to 600 per 1,000 people. When at the beginning of the new century US computerization reached the level of penetration into the daily lives of most people, the rest of the world is only started this process. In 2001, the computerization level in European Union countries was 1.5-2 times less on the average, in Russia and Brazil it was 10 times less, and in India and China it was 20 times less². Computer networks were also rapidly distributed in the late XX-th century. In 1981, about 200 computers were included in the newly created network called the Internet, and after 20 years in this network included more than 100 million computers with 400 million of sites [13].

Table 1

Communicative possibilities of different media

Message appeal	«flat»	«multidimensional»
According to the need (24/7)	Press	Internet
According to a program	Radio	TV

² Data taken from the magazine "The Economist" (1996-2006).

Virtualization stimulated such a large-scale computerization because computer multimedia have the greatest communicative potential - they are able to provide the most intensive communications (Table 1). A reader may appeal to the messages of printed media several times, re-reading a newspaper or a magazine issue when he sees fit. But the messages of printed media are «two-dimensional» only: they offer a text and an image. Television provides a «multi-dimensional» message by video and sound, but a viewer may appeal to these messages not when he wants, but according to a tough scheduling - a program schedule. Radio combines the weaknesses of printed mass media and television: a «flat» message, to which you may turn not at any time, but only according to a single program for all listeners.

All kinds of communication technologies may ensure the transmission of information, that is information / data that increase the level of knowledge to the same extent. But communication as the exchange of symbols leading to the the support of connections, the establishment of a community is best of all ensured by computer multimedia. They allow you to create a «multi-dimensional» message combining text, image, video and sound. They allow to perform an interaction in a real-time mode and a virtual common space mode and allow you to have an access to the communications network 24/7. Therefore, computer networks became the most effective tool of virtualization. And that is why virtualization is often equated with the virtualization, although virtualization is not reduced to the expansion of computer networks.

Computer multimedia did not replace the traditional communications technologies. Statistical data show that for the time being television remains the most powerful tool of value creation by the means of image broadcasting. In 2014, the share of television accounted for approximately 40% of global spending on advertising, the advertising via the Internet takes the second place (24%), which is ahead of print media (22.5%). Economically Internet only catches up with the more traditional media, although the pace of growth for this segment of the advertising is the highest one. Besides, the images broadcasted by print and electronic mass media, are created with the use of computers, and many newspapers, magazines, radio and TV stations create their own websites. So virtualization as the development of the image economy is not reduced to the commercialization of the Internet, but gives rise to the growing need for computer technologies.

The virtualization of the economy in 1990s, caused an intense commercialization of cyberspace, which emerged in the 1970s as a virtual communication space of scientists and engineers.

Now, computer networks are turned into the means of economic activity where a complete transaction cycle may be performed and where the virtual representations of firms, virtual stores and virtual banks function. Operations performed at virtual display windows using the virtual wallet, demonstrate that not so-called information, but completely different economy develops. Not information as such, not the transfer of data on the properties of a product/service that is a rational denotation but an image creation, mobilizing affective connotations is profitable.

We live during the era of the economy of images and the images of economy. The basic components of modernity economic practices are simulated in a new economy - the production of goods, innovation, the organization of work, the possession of money, and as the result, such institutions as the market, the company (corporation) and finances are virtualized.

Virtualization is a dual process that combines a computer and an image component. But if the computer virtualization is developing still, an image-virtualization is in excess already. This ratio of two aspects of virtualization is even clearer than in the economy, notable in politics, where since the end of the last century an intensive process of real action replacement by images also developed. Virtual democracy is developed, when the votes of not particularly able voters willing to deal in political programs are needed by the candidates who do not have a particular ideology, but who have an attractive image created by image-makers. A political struggle is increasingly conducted through mass media in the style of show business and using the techniques borrowed from advertising, branding and marketing. Once marxists developed the following formula: «Politics is the concentrated expression of economics». Now we are dealing with other economics, which in the conditions of post-industrial capitalism creates the means of expression for policy, whose traditional ways of expression - ideology, propaganda, party meetings are markedly weaker than branding, advertising, promotions, and business presentations.

The struggle for political power now is not a competition program of actions. After two centuries of democratization as the accumulation of people will determination experience, the organization of mass parties, the performance of state apparatus and law reforms in the name of liberal values, the creation and the implementation of the action program that embodies these values, is no longer a real political problem. The number one problem for the developed democracy is the political participation, i.e. the maintaining of interest in political programs and

actions of politicians on the part of that population majority, which now has the right to vote, but does not have the ability and/or willingness to evaluate the programs and activities and to make a choice between them. At the beginning of the XIX-th century, even in the countries which are considered the «cradle» of modern democracy - the United States, Britain, France, only 2 - 5% of the adult population had the right to vote, and politically powerless poor, women, youth fought for the opportunity to participate in elections. By the beginning of the XX-th century the proportion of voters reached 25% on the average: the right to vote was received by all adults (over 21 years) and wealthy people (who have a house and who pay taxes). By the end of the XX-th century, almost 100% of the adult population (starting from 18 years) in the developed countries acquired the right to vote, but the voting is performed now by 50-60% at best of those who have so long sought for the right to participate in political life. In conditions of mass democracy, the intensity of competition is growing among politicians, and the activity of voters is reduced.

In the situation of excessive deficit of politicians and political participation of citizens the virtualization becomes a new and the most reasonable mode of democratic institution functioning. The political struggle is turned into the struggle of images, that is, political images that create rating and image-makers, press secretaries and the «stars» of show business are recruited during political campaigns.

A real politician personality and activity are needed only as «information events» that is, they serve as some kind of an alibi for those who shape an image. Moreover, the less real actions a politician makes, the more his biography is similar to a smooth and clear sheet of paper, the greater freedom of action image-makers have to create the image, which is in demand within a current situation. They develop scripts, slogans, special effects, for the supply of which some events are performed for public, which are perceived as political ones. An electoral campaign is becoming an advertising campaign, and not a political one in the traditional sense, which dictates the need of its management key functions transfer from professional politicians to the advertising industry experts.

Actually, the political process left the meetings of party and government committees that make up the programs of reforms, distributing functions and supervising their implementation. It also left factional negotiations and party meetings. Politics is created now in PR-agencies, television studios and on concert stages. Management and policy in the late

XX-th century, were divided in the same way as production and economy. The cost of goods is a virtual one and the powers also become virtual. The consequence of this virtualization is the changing of political regime nature i.e. mass democracy. During the elections there is no significant change of officials, experts who carry out the routine work management in the «corridors of power». The so-called public politicians are changed, that is, those who work for the audience. They and some sexy staff of press services present to the citizens and to the whole world the political image of a state and its individual institutions. Voting for an image and the competition of images lead to the virtualization of a state, based on an electoral system.

In most developed countries, the replacement of the actual political programs and actions by images is not a cynical practice of a voter fraud. The transition from a real policy to the policy of images is necessary. On the one hand, the institutional rules that embody the values of freedom and progress require permanent reforms of society and a vigorous clash of ideologies. On the other hand, the presence of a clear ideological position among the candidates for elective public office, the trying to follow a stated course of reforms is just socially dangerous in a prosperous and a stable society. The replacement of real political programs and actions created by advertising images of «new initiatives», «radical reforms», «national projects» retains the usual policy in the form of images and provides the attention and the success of those candidates, whose image, but not a program or an action, vividly embodies the values of freedom and progress.

A collective political action is replaced by the images as well as an individual action. Parties, emerging as a mass organizations - the «Armies» of agitators, representing the class, ethnic, religious, regional interests, with the advent of image-makers teams, acting through the channels of mass media have lost their effectiveness in the mobilization of voters. Political parties used to be mass organizations, the membership of which was associated with the commitment to ideology and the participation in a regular daily work. Now they become brands attracting the electorate, the promotion of which is transferred to professionals from the mass media and advertising industries. Parties have become «brands» - logos and advertising slogans, which traditionally attract the electorate. The idea of commitment to «brand» use drives the process of political struggle organization image maintaining as the struggle of parties.

The places where a «brand» is a long-standing tradition, the attributes of «good old» liberals, social democrats and communists image is carefully maintained, even if the original ideology and practice changed fundamentally and continue to evolve. This is the way of Republican and Democratic party functioning in the United States, the Conservative and Labour Party functioning in the United Kingdom, the Christian Democrats and the Social Democratic Party functioning in Germany.

Where a «brand» is missing, parties and movements are formed, combined and disintegrated with kaleidoscopic rapidity in an effort to find an attractive image. The example here is a so-called reformist party created in the early 1990s in the US and the UK as an alternative to the leading parties - the result of Ross Perot efforts, a businessman carried away politics, and the Liberal Democratic Party, which appeared from the union of Liberals and Social Democrats who lost their popularity. But the most revealing in this respect is the party system that emerged in Italy after the simultaneous collapse of all traditional parties in the early 1990s, when their total corruption was exposed. In the next decade and a half the composition and the nature of party coalitions constantly changes, and the crucial role was played by the movement of «Forza Italia!», which was suddenly created by a media magnate Silvio Berlusconi in 1994 and which is a permanent advertising campaign of the group of politicians in the greater extent than an actual mass organization.

Another symptom of mass democracy institution virtualization is the replacement of appeals to a public opinion by the manipulations with ratings. The ratings which are based on a sample survey, when respondents agree with the variants of opinions, engineered by experts, represent only a model, an image of public opinion. Participating in a survey, respondents animate these models, and then the images become real factors of political decision adoption and implementation. Since images and models replace the real actions of politicians and the will of the citizens, then the performance of social roles of politicians - the candidates and the «statesmen» and also the roles of a voter becomes a virtual one. The virtualization of public opinion, which used to be an expression of real social groups intentions interested in politics now takes place in the form of a media «war of ratings» when the interests and groups which express them, are designed by surveys initiated by political technologists.

The policy of images requires an intensive use of telecommunication technologies, and that's why the turning of global computer network into the

means and the environment of political activity happened quickly at the end of the XX-th century. Nearly all political campaigns are accompanied now by the creation of specialized servers and Web sites, through which a politician image is formed (via a political event or a political organization). A campaign, the communication with supporters, and so on is carried out through the Internet. The state bureaucracy (especially ministries, tax and immigration authorities) is increasingly presented now in the Internet by pages and portals, simulating the interaction of citizens (or guests) with the government officials. You may receive advice, seek for information, provide tax returns, and so on through the network.

It is significant that the functionaries of political parties/movements, and the employees of public institutions and citizens communicate through the network technology, which basically allows you not to maintain communication in the format of a party organization or a bureaucratic procedure. However, the potential of these technologies is used here primarily to maintain the image of social role usual distribution. The following things are offered for web site visitors: registration of participants, filling in all sorts of forms, the voting on a given issue, and so on. Thus, in the absence of a real institutional interaction an image of «an operating organization» or «a working state» is supported. An intense politicization of a cyberspace demonstrates that a new policy is based on the compensation of real resource deficit and deeds and the abundance of images. The «cyber prostheses» of mass democracy political institutions are created in such a way.

The logic of virtualization which equally seized economic and political institutions, had an impact on those who seek to confront these institutions or even destroy them. The opponents of an economic and a political system of modern society are faced with the need to adjust their actions under the format of mass media and begin a war of images. The acts of protests and even the acts of terrorism began to be practiced by radical movements so that they produce the effect which is needed by virtualization logic. When instead of attacks on objects that are vital for the functioning of an economic and a political regime operation, the attacks on the objects of great symbolic value take place, they are considered essentially as virtual attacks. According to the number of victims and material damage such attacks, regular at the turn of XX-XXI centuries, could be varied greatly from the attacks of anti-globalization protesters at McDonald's restaurants to the attacks of Al-Qaeda militants in captured planes on the World Trade Center in New York. But in all cases these were

the acts oriented not on enemy defeat but on the creation of a spectacular image in a format suitable for mass media. In the context of virtualization terrorism is the PR for poor. In the world of virtualization, those who have no direct access to mass media, make any sacrifice to achieve a shock concentration of attention. In case of success, they manage at least to get to the place where the following principle rules «who owns the attention, owns the world».

We live in the era of policy of images and the images of policy. The simulation of the basic components of modernity political practices - an ideology, an organization, a public opinion - lead to the virtualization of mass democracy institutions - elections, state, parties. And this virtualization allows and provokes the transformation of the global computer network Internet in the means/the environment of political struggle. Almost all political acts and campaigns are accompanied now by the creation of dedicated servers and web-pages, by which a politician image is developed (stocks, organization), an agitation is performed, the communication with supporters takes place, etc. An intense politicization of cyberspace demonstrates that a new policy is based on the compensation of real resources and deeds deficit by the abundance of images.

The virtualization of society is a civilizational trend at the turn of the centuries. The substitution of things and real action by the images and communications is characteristic of all countries that passed modernization and appeared in the post-modern social and cultural situation. Based on the analysis of trends, typical for most developed countries, we may conclude that the orientation of practices not on things, but on images leads to the simulation of institutions (a virtual adherence to roles). Institutions become images, turning into some kind of a virtual reality. However, in the catch-up modernization countries, where industrialization, the development of mass consumption society, the development of mass democracy institutions began later than in Western Europe and North America, virtualization has its own characteristics.

Russia is a typical catch-up modernization society. Here, after the period of an intensive industrialization in the XX-th century the transition to a postindustrial society started. This transition occurred in a specific form, which differs significantly the processes of post-industrialization in Russia from the processes in Western Europe and North America. In a technologically and economically developed countries, the reduction of industrial production share was achieved through the

export of capital and the outsourcing of production of goods at the intensive development of brands like virtual assets, providing the control over the markets and supply chains. In Russia, the shrinking of goods production was accompanied by the import of western brands and the increase of service sector capacity related to the supply chain functioning.

The specifics of virtualization processes in post-Soviet society creates the situation where the controlled development of social structures should be both subordinated to the objectives of technological and industrial infrastructures, which is rather characteristic for the completion of the modern era, and the tasks dictated by the transition from modernity to postmodernity.

The Russian economy is not an exception from the general trend of structural changes for the industrialized countries, when the share of employment in the secondary sector (industry) is reduced and share of employment in the tertiary sector (services) grows. However, at the view through the prism of virtualization on Russian trends two opposite trends are revealed. On the one hand, the proportion of the traditional agricultural sector and the mining industry remains a relatively high. On the other hand, with the increase of service share in GDP and the share of employment in the tertiary sector of the economy - the service sector, the role of communication, the creation and maintaining of images increases and, thus, ICT role increases.

An essential feature of the economic situation in Russia is a sharp contrast between the capital and provinces. A more developed transport, communication and social infrastructure became the basis for the expansion of the economy tertiary sector in the capitals. Banks, trade, real estate transactions, entertainment, advertising and tourism are the new fields of employment compensating, at least partly, the collapse of industrial production. Here you may find the emergence of the virtual economy. The migration flows from stagnant regions and sectors come here, which create the additional structural gaps between a traditional social reality and new virtualized structures of social life.

A typical structural gap in the societies of catch-up modernization is the gap between generations. Different generations live in different virtual realities. According to the survey of Russian Public Opinion Research Center (VTSIOM) 55% of the adult population used Internet and 82% of Russian Internet users had the accounts in social networks at the beginning of 2012. But TV remains the dominant tool for the virtualization of societ. 60% of the adult population called television «the main source of news of the country events», Internet was called such a source only by 23% (VTSIOM survey of 2013). At that Internet was selected as the major source of news

by 50% of respondents at the age of 18-24 years and only by 11% of respondents at the age of 45-59. Television is the main source of news for 72% of 45-59-year-olds and only for 34% of 18-24 year old persons.

Modern Russian politicians and political technologists actively use mass media to create and broadcast images. The virtualization of policy in the society of catch-up modernization in some aspects goes even further than in Western democracies. The images of politicians line up purposefully using the techniques of advertising and show business, and political parties operate as long-term media projects. But the existence of different generations in different virtual realities becomes a challenge for political elites, when one part of the electorate lives in the world of images and communications, created by traditional media, and the other part is focused on the images and communications circulating in new media. During the early years of the second decade of the new century the cognition of this call led to increased use of Internet resource opportunities by major political forces within the post-Soviet space.

The virtualization of policy acquires a new character as the projects of state body functions translation are implemented into electronic communication platforms. The implementation a state procurement and delivery system and the provision of public services via the Internet, as in Russia, makes the interaction between citizens and state officials a part of modern society virtual reality. The implementation of public initiative development projects using specialized communication platforms in the Internet leads to the virtualization of social movements.

The marked symptoms of economics and politics virtualization are enough to argue that the society in Russia changes in the same direction of the post-industrial civilization as the society in the West countries. Apparently, the ways of society integration and the resolution of its conflicts change in the same manner. Further development of traditional institutional means of social control going beyond the level of modern era would be not only effective, but also a negative factor for the consolidation and the development of society. The development and consolidation of society will now depend on the creation of attractive images - economic, political, ethical, etc., as well as on the development of a new type of social interaction infrastructure - communication networks.

There are the prerequisites for such a development, but the virtualization in such countries of catch-up modernization as Russia, is well ahead of computerization. In relation to the most developed countries the level of computerization of the social

life in Russia is 2-3 times less. For example, in 2008, according to the World Bank data in the US, there were 810 computers per 1,000 people, and Russia had only 130 per 1,000 people. In 2010, according to the same source there were 710 Internet users in the US per 1,000 inhabitants, and 430 Internet users in the Russia per 1,000 inhabitants. A low level of the technical infrastructure development of a new social organization prevents more and more the positive use of virtualization trends.

The provided data do not constitute the grounds for the thesis about the need of a speed-up computerization. It is not worth to be charmed (as it happened many times) by technical and economical view of social problems. Sociological view allows to realize clearly that industrialization does not modernize society but modernization industrializes it, and computerization does not virtualize society, but virtualization computerizes society.

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